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United States
Department of
Agriculture, Forest
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of Indian Affairs; the
Regents of the University
of California (Agricultural
Experiment Station), and
University of Nevada
Agricultural Experiment
Station

Soil Survey of Surprise Valley- Home Camp Area, California and Nevada



How To Use This Soil Survey

This survey is divided into two parts. Part I includes general information about the survey area; descriptions of the detailed soil map units and soil series in the area; descriptions on use and interpretations of soils, and various tables. Part II includes the maps.

The **detailed soil map units** follow the general information about the survey area. These map units 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 **Index to Map Units** in Part I of this survey, which lists the map units by symbol and name and shows the page where each map unit is described.

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

A **U.S. General Soil Map (STATSGO)** is available for this survey area. This database consists of a soils map at a scale of 1 to 250,000 and descriptions of groups of associated soils. It replaces the general soil map published in older soil surveys. The map and the database can be used for multi-county planning, and map output can be tailored for a specific use. More information about the U.S General Soil Map for this survey area, or any portion of California and Nevada, is available at the local office of the Natural Resources Conservation Service, and on the internet at <http://soildatamart.nrcs.usda.gov/USDGSM.aspx>.

Some standards or values may change as more information is collected and analyzed. Thus, as older published interpretive information becomes outdated, new interpretive data must be generated and tailored to local conditions. This information is added to the Soil Data Mart and Web Soil Survey as needed. See the NRCS soils home page (<http://soils.usda.gov/>) for links to these applications and other information about soils and soil surveys.

National Cooperative Soil Survey

This soil survey is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (formerly the Soil Conservation Service) has leadership for the Federal part of the National Cooperative Soil Survey. This soil survey was made cooperatively by the United States Department of Agriculture, Natural Resources Conservation Service and Forest Service, United States Department of Interior, Bureau of Land Management and Bureau of Indian Affairs, Regents of the University of California (Agricultural Experiment Station), and University of Nevada Agricultural Experiment Station. It is part of the technical assistance furnished to the Vya Conservation District and the Surprise Valley Resource Conservation District.

Major fieldwork for this soil survey was completed in 2005. Soil names and descriptions were approved in 2006. Unless otherwise indicated, statements in this publication refer to conditions in the survey area in 2006.

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

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Cover: A typical landscape of the volcanic hills in the eastern part of the survey area. In the immediate foreground is Ashtre-Nutzan-Cavin association, map unit 306. On the summit and shoulders of the hill in the near-background is Zorromount-Hutchley association, map unit 602. The prominent tree-like shrub is curleaf mountainmahogany, the dominant plant on the Zorromount soil.

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Foreword

This soil survey has been developed by the Natural Resources Conservation Service, America's Private Lands Conservation Agency. The soil survey contains information that affects land use planning and other aspects of natural resources conservation in this survey area. It contains predictions of soil behavior for selected land uses. The survey also highlights soil limitations, improvements needed to overcome the limitations, and the impact of selected land uses on the environment.

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

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

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

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

LINCOLN E. BURTON
State Conservationist
Natural Resources Conservation Service



Location of the Surprise Valley-Home Camp, California and Nevada Soil Survey

Soil Survey of Surprise Valley-Home Camp Area, California and Nevada

By Edward W. Blake, Natural Resources Conservation Service

Field work by Steven E. Slusser, Edward W. Blake, John B. Fisher, Steve C. Herriman and James Komar Natural Resources Conservation Service

United States Department of Agriculture, Natural Resources Conservation Service, in cooperation with United States Department of Agriculture, Forest Service; United States Department of Interior, Bureau of Land Management and Bureau of Indian Affairs, Regents of the University of California (Agricultural Experiment Station), and University of Nevada Agricultural Experiment Station.

General Nature of the Survey Area

The Surprise Valley-Home Camp Area is in the northeastern part of California and northwestern part of Nevada (see map on opposite page). The Surprise Valley part of the survey area is located mostly within Modoc County, California with a small part being located within northwestern Lassen County, California. The Home Camp part of the area is in Washoe County, Nevada. The survey area boundary is the crest of the Warner Mountains on the west, and it extends to High Rock Canyon, in Washoe County to the east. The northern boundary is the Oregon State line, and it extends south to Frog Creek in Washoe County. The area includes lands administered by the Bureau of Land Management; lands administered by U.S. Forest Service, located within the Warner Mountains; lands administered by the Bureau of Indian Affairs, located near Fort Bidwell; and privately owned lands, located primarily within Surprise Valley.

This soil survey updates the Surprise Valley-Home Camp Area California-Nevada survey, published in 1974, (USDA-SCS, 1974). It provides additional information and has larger maps which show the soils in greater detail.

History

The original inhabitants of this survey area were the Paiute Indians. John C. Fremont was the first explorer of the area to make recorded observations. His visit was followed by those of early settlers traveling to northern California via the Applegate Road and Noble Trail that pass through or near this area. A serious drought occurred in the California Central Valley during 1864, which prompted the movement of large cattle herds to the productive Surprise Valley area. The first settlement in the area was Deep Creek, located two miles south of Cedarville, where a cabin and store were built in 1865. In 1867 the settlement of Deep Creek was moved to the site of present day Cedarville. In 1869 a wagon road was built over Cedar Pass which connected Surprise Valley with the Sacramento Valley.

Industry, Transportation, and Recreation

With the exception of the areas immediately adjacent to the towns of Cedarville, Eagleville, Fort Bidwell and Lake City, the majority of the survey area is sparsely populated with limited development. The primary industry is livestock production, most of which occurs on federal grazing allotments administered mainly by the Bureau of Land Management and the Forest Service.

Farming is also an important part of the economy of the Surprise Valley area, consisting primarily of hay production for livestock production. Sporadic mining has occurred in the area, but there is currently no active mining.

The major access to the survey area is provided by two paved state highways. State Route 299 provides east-west access to California, while State Route 81 provides the main north-south access to the Reno area via Gerlach, Nevada. A combination of unpaved County, Bureau of Land Management and Forest Service roads provide access to many of the more remote parts of the survey area.

The survey area is actively used for recreation. The area provides many opportunities to hunt and fish, bird watch, search for rocks, photograph the area, hike or bike, operate all terrain vehicles or to simply enjoy the solitude of wide open spaces. An alpine skiing facility is operated seasonally in the Cedar Pass area of the Warner Mountains. In addition, the Warner Mountains provide excellent opportunities for hiking, with the presence of two National Recreation Trails and the South Warner Wilderness Area. Principle game species include mule deer, pronghorn antelope, upland game birds, waterfowl, and even Rocky Mountain elk, which inhabit parts of the Warner Mountains.

Physiography, Drainage, and Geology

The Surprise Valley-Home Camp Area is located on the northwestern part of the Great Basin, with the crest of the Warner Mountains forming the western boundary. The area is transitional from the Basin and Range Province to the Columbia Plateau Province. The area is typified by broad, elongated internally drained valleys with long north-south trending mountain ranges and broad plateaus.

The mountains and plateaus are drained by numerous small, intermittent and less frequent perennial streams such as Bidwell and Cedar Creeks. Drainages converge in basins, giving rise to numerous playas and intermittent lakes, the most prominent of these being Lower, Middle and Upper Lakes that occur in Surprise Valley. During periods of high spring runoff these lakes and playas are covered with shallow water, typically drying out again as summer progresses. Under unusually wet conditions water may be present in these lakes throughout the year.

Volcanic rocks dominate the geology of the survey area. Plateaus are dominated by Miocene and Pliocene flows of basalt with less frequent andesite flows, as well as areas of tuff associated with the High Rock Sequence. The Warner Mountains are dominantly composed of Tertiary and Miocene andesite and tuff

breccia. Quaternary deposits occupy the basins, both as lacustrine deposits from Pleistocene lakes and as more recent alluvial deposits. Remnant lake features are noticeable within basin areas such as Surprise Valley, where Pleistocene Surprise Lake once existed.

Climate

The climate within the survey area is characterized by generally warm dry summers and cold moist winters. Most precipitation occurs as snow, with higher elevation areas in the Warner Mountains receiving enough snow to last long into the summer in sheltered locations. Large variations in average annual precipitation occur within the survey area, ranging from less than 8 inches in some of the lower valleys to about 50 inches in the higher elevations of the north part of the Warner Mountains. Likewise, average annual air temperature and frost-free period are strongly influenced by elevation and topography. Frost-free periods range from about 30 days at some of the higher mountain locations to more than 100 days in lower valley locations.

Table 1, "Temperature and Precipitation" gives data on temperature and precipitation within the survey area as recorded at Cedarville, California and nearby Gerlach, Nevada during the period of record from 1971 to 2000. Table 2, "Freeze Dates in Spring and Fall" show probable dates of the first freeze in fall and the last freeze in spring. Table 3, "Growing Season" provides data on length of the growing season.

In winter, the average temperature is 31 degrees and the average daily minimum temperature is 21 degrees at Cedarville, and 33 degrees and 22 degrees at Gerlach. The lowest temperature on record is -28 and -30 degrees, respectively at Cedarville and Gerlach. In summer, the average temperature is 67 degrees and the average daily maximum temperature is 82 degrees at Cedarville, and 72 degrees and 88 degrees at Gerlach. The highest recorded temperature is 102 degrees at Cedarville and 102 degrees at Gerlach.

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

The total annual precipitation is about 13 inches at Cedarville and 8.4 inches at Gerlach, of this about 32 percent occurs from April through September. The growing season for most crops falls within this period.

How This Survey Was Made

This survey was made to provide information about the soils and miscellaneous areas in the survey area. The information includes a description of the soils and miscellaneous areas and their location and a discussion of their suitability, limitations, and management for specified uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of native plants; and the kinds of bedrock. They dug many holes to study the soil profile, which is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed.

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

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

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to

taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

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

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 drainage, vegetative and geologic patterns, landforms and roads, all of which help in locating boundaries accurately.

Detailed Soil Map Units

The map units on the detailed maps in this publication 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. More information about each map unit is given under the headings "Use and Management of the Soils" and "Soil Properties." A map unit delineation on the detailed soil maps represents an area dominated by one or more soils or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils or miscellaneous areas. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils and miscellaneous areas 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, are mapped without including areas of other taxonomic classes.

Consequently, map units are made up of the soils or miscellaneous areas for which they are named and some "included" areas that belong to other taxonomic classes.

Most included soils have properties and behavioral characteristics similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, inclusions. They may or may not be mentioned in the map unit description. Other included soils and miscellaneous areas, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, inclusions. 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 included areas of contrasting soils or miscellaneous areas are mentioned

in the map unit descriptions. A few included areas 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 included areas 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 segments that have similar use and management requirements. The delineation of such landscape segments on the map provides sufficient information for the development of resource plans, but if intensive use of small areas is planned, 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. The principal hazards and limitations to be considered in planning for specific uses are identified in the tables and narrative.

Kinds of Map Units

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

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, wetness, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Some of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Husa ashy loam, drained, 0 to 2 percent slopes is a phase of the Husa series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes or associations. 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. Rubble land-Paynepeak complex, 15 to 50 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. Softscrabble-Dosie-Hutchley association is an example.

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

Acreage and Extent

Table 4, "Acreage and Proportionate Extent of the Soils", gives the acreage and proportionate extent of each map unit. Other tables (see "Summary of 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.

Headings and Introductory Phrases

In the map unit descriptions that follow, a semi-tabular format is used. In this format the major headings are centered in the column (for example, *Composition*). They identify the information grouped directly below them. Introducing each item of information under the centered heading is a term or phrase (for example, *Landform*) that identifies or describes the information. Many of the centered headings and introductory terms are self-explanatory; however, some of them need further explanation and are defined in the Glossary. Explanations of the headings and introductory phrases are provided in the following paragraphs, generally in the order in which they are used in the map unit descriptions.

Map Unit Setting is given for the entire map unit. The MLRA, or major land resource area, is listed first. The MLRA is a broad ecological area with characteristic

climate, topography, vegetation, water resources, soils and land use (5). This section identifies the landscape in which the map unit is located. The landscape positions given for the entire map unit generally are broader than those given for each component.

Composition is given for the components (soils or miscellaneous areas) identified in the name of the map unit as well as for the contrasting inclusions. Contrasting inclusions are inextensive components that differ in use and management from the soils or miscellaneous areas for which the map unit is named. As was explained earlier, inclusions can either be *similar* or *contrasting*. Note that in the *Composition* section a single percentage is provided for a named soil and its similar inclusions because their use and management are similar.

Component Description lists the characteristics of the major components. These include landform, parent material, typical vegetation, a brief profile description, slope, runoff, available water capacity, drainage class, and other important properties of the soil. Also provided are important interpretive groups including land capability classification and ecological site numbers.

Ecological Site is the assigned rangeland or grazed forest land ecological site that identifies a unique potential native plant community. The plant species and production typical of each rangeland ecological site are listed by map unit in Table 6, "Rangeland Ecological Sites, Productivity and Characteristic Vegetation". Additional information about managing these sites is provided under the heading "Rangeland and Forest Land Resource Management" in this publication. Further information also can be obtained from the local office of the Natural Resources Conservation Service.

Contrasting Inclusions lists additional information about the soils of minor extent in the map unit. The slope, landform, typical vegetation, and ecological site number are listed for each soil or miscellaneous area as appropriate.

Map Unit Descriptions

300—Anawalt-Ninemile association

Map Unit Setting

MLRA: 21

Landscape: Plateau

Elevation: 5,600 to 6,200

Precipitation: 10 to 13 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Anawalt very stony loam, 5 to 15 percent slopes—50 percent
 Ninemile very stony loam, 5 to 15 percent slopes—30 percent
 Puls very stony loam, 5 to 9 percent slopes—5 percent
 Madeline very stony loam, 5 to 15 percent slopes—5 percent
 Tunnison very cobbly clay, 5 to 9 percent slopes—4 percent
 Indiano very stony loam, 9 to 15 percent slopes—3 percent
 Rock outcrop, 9 to 15 percent slopes—2 percent
 Rubble land, 9 to 15 percent slopes—1 percent

Component Description

Anawalt and similar soils

Landform: Summits of plateaus
 Slope: 5 to 15 percent
 Parent material: Colluvium derived from andesite and basalt and residuum weathered from basalt or andesite
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, Idaho fescue, Sandberg bluegrass, antelope bitterbrush, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 15 percent stones, 20 percent cobbles
 Layer 1—0 to 4 inches; very stony loam
 Layer 2—4 to 16 inches; gravelly clay
 Layer 3—16 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE173CA—Shallow stony loam 12-16"

Component Description

Ninemile and similar soils

Landform: Summits of plateaus
 Slope: 5 to 15 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber's needlegrass, bottlebrush squirreltail, antelope bitterbrush, Idaho fescue, balsamroot, low sagebrush, bluebunch wheatgrass, bluegrass

Typical profile:

Layer 1—0 to 2 inches; very stony loam
 Layer 2—2 to 11 inches; clay
 Layer 3—11 to 18 inches; gravelly clay
 Layer 4—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE173CA—Shallow stony loam 12-16"

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Puls and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 9 percent
 Landform: Plateaus
 Typical vegetation: Thurber's needlegrass, antelope bitterbrush, bluebunch wheatgrass, low sagebrush, Idaho fescue, bluegrass
 Ecological site: R021XE173CA—Shallow stony loam 12-16"

Madeline and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent, north aspect

Landform: North facing backslopes of plateaus

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush, Thurber's needlegrass

Ecological site: R021XE174CA—Stony loam 12-16"

Tunnison and similar soils

Composition: 0 to 4 percent

Slope: 5 to 9 percent

Landform: Plateaus

Typical vegetation: Beardless wildrye, littleleaf horsebrush, Thurber's needlegrass, bottlebrush squirreltail, rubber rabbitbrush, big sagebrush, western wheatgrass

Ecological site: R023XF093CA—Shallow clay 9-16"

Indiano and similar soils

Composition: 0 to 3 percent

Slope: 9 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber's needlegrass, bluebunch wheatgrass

Ecological site: R021XE179CA—Warm stony loam 12-16"

Rock outcrop

Composition: 0 to 2 percent

Slope: 9 to 15 percent

Landform: Plateaus

Rubble land

Composition: 0 to 1 percent

Slope: 9 to 15 percent

Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

301—Ashtre-Ashdos association**Map Unit Setting**

MLRA: 23

Landscape: Hills

Elevation: 4,840 to 6,630

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Ashtre very gravelly ashy loam, 4 to 15 percent slopes—60 percent

Ashdos very gravelly ashy fine sandy loam, 4 to 30 percent slopes—25 percent

Nutzan very gravelly ashy sandy loam, 4 to 15 percent slopes—7 percent

Ninemile very cobbly loam, 4 to 15 percent slopes—5 percent

Bitner very gravelly ashy sandy loam, 4 to 15 percent slopes—3 percent

Component Description**Ashtre and similar soils**

Landform: Backslopes of ash flows

Slope: 4 to 15 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Needlegrass, other shrubs, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Component Description**Ashdos and similar soils**

Landform: Backslopes of ash flows

Slope: 4 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Other perennial forbs, bluegrass, Idaho fescue, low sagebrush, needlegrass, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy fine sandy loam
 Layer 2—2 to 12 inches; gravelly ashy fine sandy loam
 Layer 3—12 to 24 inches; gravelly ashy sandy clay loam
 Layer 4—24 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY079NV—Ashy claypan (cool) 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nutzan and similar soils

Composition: 0 to 7 percent
 Slope: 4 to 15 percent
 Landform: Summits of hills
 Typical vegetation: Antelope bitterbrush, other perennial forbs, other perennial grasses, Idaho fescue, needlegrass, mountain big sagebrush, other shrubs
 Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Ninemile and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Hills

Typical vegetation: Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, Thurber's needlegrass, other shrubs
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Bitner and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Shoulders of hills
 Typical vegetation: Idaho fescue, bluebunch wheatgrass, big sagebrush, antelope bitterbrush, Thurber's needlegrass
 Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

302—Ashtre-Ashdos-Tusune association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,730 to 6,610
 Precipitation: 12 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 100 days

Composition

Ashtre very gravelly ashy loam, 8 to 30 percent slopes—40 percent
 Ashdos very gravelly ashy fine sandy loam, 15 to 30 percent slopes—30 percent
 Tusune gravelly ashy loam, 30 to 50 percent slopes—20 percent
 Hutchley very cobbly sandy loam, 4 to 15 percent slopes—6 percent
 Nutzan very gravelly ashy sandy loam, 4 to 15 percent slopes—3 percent
 Zorromount gravelly ashy mucky fine sandy loam, 8 to 30 percent slopes—1 percent

Component Description

Ashtre and similar soils

Landform: Backslopes of ash flows

Slope: 8 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Mountain big sagebrush, other shrubs, needlegrass, other perennial forbs, bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Component Description

Ashdos and similar soils

Landform: Backslopes of ash flows

Slope: 15 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Needlegrass, low sagebrush, Idaho fescue, bluegrass, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy fine sandy loam

Layer 2—2 to 12 inches; gravelly ashy fine sandy loam

Layer 3—12 to 24 inches; gravelly ashy sandy clay loam

Layer 4—24 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY079NV—Ashy claypan (cool) 10-14 P.Z.

Component Description

Tusune and similar soils

Landform: Footslopes of plateaus

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Other shrubs, Idaho fescue, Cusick's bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones, 2 percent cobbles, 28 percent gravel

Layer 1—0 to 2 inches; gravelly ashy loam

Layer 2—2 to 10 inches; gravelly ashy loam

Layer 3—10 to 38 inches; very gravelly ashy clay loam

Layer 4—38 to 48 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY054NV—Steep north slope

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hutchley and similar soils

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Antelope bitterbrush, other perennial forbs, basin wildrye, Idaho fescue, mountain big sagebrush, needlegrass, bluebunch wheatgrass

Ecological site: R023XY008NV—Mountain ridge

Nutzan and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Mountain big sagebrush, other perennial forbs, other perennial grasses, antelope bitterbrush, other shrubs, needlegrass, Idaho fescue

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Zorromount and similar soils

Composition: 0 to 1 percent

Slope: 8 to 30 percent, west to east aspects

Landform: West to east aspects on backslopes of mountains

Typical vegetation: Idaho fescue, mountain big sagebrush, curleaf mountainmahogany, needlegrass, Cusick's bluegrass, bluebunch wheatgrass

Ecological site: R023XY026NV—Mahogany Savanna

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

303—Ashtre-Bitner association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,240 to 6,710

Precipitation: 10 to 16 inches

Air temperature: 43 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Ashtre very gravelly ashy loam, 4 to 15 percent slopes—50 percent

Bitner very gravelly ashy sandy loam, 4 to 15 percent slopes—35 percent

Bitner very gravelly ashy sandy loam, 15 to 30 percent slopes—6 percent

Nutzan very gravelly ashy sandy loam, 4 to 30 percent slopes—5 percent

Devada very cobbly loam, 4 to 15 percent slopes—3 percent

Ashdos very gravelly ashy fine sandy loam, 4 to 15 percent slopes—1 percent

Component Description

Ashtre and similar soils

Landform: Backslopes of ash flows

Slope: 4 to 15 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Component Description

Bitner and similar soils

Landform: Shoulders of plateaus

Slope: 4 to 15 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, big sagebrush, Thurber's needlegrass

Typical profile:

Layer 1—0 to 7 inches; very gravelly ashy sandy loam

Layer 2—7 to 13 inches; gravelly ashy sandy loam

Layer 3—13 to 27 inches; gravelly ashy sandy loam

Layer 4—27 to 37 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bitner and similar soils

Composition: 0 to 6 percent

Slope: 15 to 30 percent

Landform: Shoulders of plateaus

Typical vegetation: Idaho fescue, antelope bitterbrush, big sagebrush, bluebunch wheatgrass, Thurber's needlegrass

Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Nutzan and similar soils

Composition: 0 to 5 percent

Slope: 4 to 30 percent

Landform: Summits of plateaus

Typical vegetation: Needlegrass, Idaho fescue, other perennial grasses, mountain big sagebrush, other shrubs, antelope bitterbrush, other perennial forbs

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Devada and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Ashdos and similar soils

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Backslopes of ash flows

Typical vegetation: Needlegrass, low sagebrush, Idaho fescue, bluegrass, other perennial forbs, other shrubs

Ecological site: R023XY079NV—Ashy claypan (cool) 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

304—Ashtre-Crocán association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,740 to 6,690

Precipitation: 12 to 16 inches

Air temperature: 42 to 45 degrees Fahrenheit

Frost-free period: 60 to 100 days

Composition

Ashtre very gravelly ashy loam, 8 to 15 percent slopes—60 percent

Crocán extremely stony loam, 2 to 15 percent slopes—25 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—6 percent

Redhome cobbly loam, 4 to 15 percent slopes—4 percent

Nutzan very gravelly ashy sandy loam, 8 to 15 percent slopes—3 percent

Hashwoods ashy fine sandy loam, 15 to 30 percent slopes—2 percent

Component Description

Ashtre and similar soils

Landform: Backslopes of ash flows

Slope: 8 to 15 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam
 Layer 2—2 to 11 inches; ashy loam
 Layer 3—11 to 26 inches; ashy clay loam
 Layer 4—26 to 60 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Component Description

Crocán and similar soils

Landform: Plateau rims
 Slope: 2 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Forest canopy—western juniper
 Forest understory—western needlegrass, Thurber's needlegrass, Idaho fescue, Canby bluegrass, Cusick's bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, western juniper, other shrubs
 Site index: Western juniper—12 at an age base of 50 years

Typical profile:

Surface rock fragments: About 18 percent stones
 Layer 1—0 to 3 inches; extremely stony loam
 Layer 2—3 to 5 inches; clay loam
 Layer 3—5 to 14 inches; clay
 Layer 4—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 14 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: F023XY095NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cowbell and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 30 percent, east to west aspects
 Landform: East to west aspects on backslopes of plateaus
 Typical vegetation: Needlegrass, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curlleaf mountainmahogany
 Ecological site: R023XY026NV—Mahogany Savanna

Redhome and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Shoulders of plateaus
 Typical vegetation: Needlegrass, Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Nutzan and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 15 percent
 Landform: Summits of plateaus
 Typical vegetation: Needlegrass, Idaho fescue, other perennial grasses, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs
 Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Hashwoods and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on plateaus

Typical vegetation: Forest canopy—quaking aspen

Forest understory—mountain brome, slender wheatgrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs, snowberry, quaking aspen

Ecological site: F023XY028NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

305—Ashtre-Nutzan-Ashdos association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,060 to 6,810

Precipitation: 12 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 100 days

Composition

Ashtre very gravelly ashy loam, 4 to 30 percent slopes—50 percent

Nutzan very gravelly ashy sandy loam, 4 to 15 percent slopes—20 percent

Ashdos very gravelly ashy fine sandy loam, 4 to 15 percent slopes—15 percent

Rock outcrop—8 percent

Tusune gravelly ashy loam, 30 to 50 percent slopes—4 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—2 percent

Zorromount gravelly ashy mucky fine sandy loam, 4 to 30 percent slopes—1 percent

Component Description

Ashtre and similar soils

Landform: Backslopes of ash flows

Slope: 4 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, bluegrass, needlegrass, Idaho fescue

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Component Description

Nutzan and similar soils

Landform: Summits of plateaus

Slope: 4 to 15 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Antelope bitterbrush, mountain big sagebrush, other perennial forbs, needlegrass, Idaho fescue, other shrubs, other perennial grasses

Typical profile:

Surface rock fragments: About 4 percent stones

Layer 1—0 to 10 inches; very gravelly ashy sandy loam

Layer 2—10 to 17 inches; gravelly ashy sandy loam

Layer 3—17 to 28 inches; very gravelly ashy sandy loam

Layer 4—28 to 36 inches; extremely gravelly ashy coarse sandy loam

Layer 5—36 to 46 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Component Description

Ashdos and similar soils

Landform: Backslopes of ash flows
 Slope: 4 to 15 percent
 Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Idaho fescue, low sagebrush, other perennial forbs, bluegrass, needlegrass, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy fine sandy loam
 Layer 2—2 to 12 inches; gravelly ashy fine sandy loam
 Layer 3—12 to 24 inches; gravelly ashy sandy clay loam
 Layer 4—24 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY079NV—Ashy claypan (cool) 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 8 percent

Landform: Plateaus

Tusune and similar soils

Composition: 0 to 4 percent
 Slope: 30 to 50 percent
 Landform: Footslopes of plateaus
 Typical vegetation: Other shrubs, Idaho fescue, Cusick's bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush
 Ecological site: R023XY054NV—Steep north slope

Hutchley and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Summits of plateaus
 Typical vegetation: Needlegrass, Idaho fescue, basin wildrye, mountain big sagebrush, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush
 Ecological site: R023XY008NV—Mountain ridge

Zorromount and similar soils

Composition: 0 to 1 percent
 Slope: 4 to 30 percent, west to east aspects
 Landform: West to east aspects on backslopes of plateaus
 Typical vegetation: Cusick's bluegrass, bluebunch wheatgrass, curleaf mountainmahogany, Idaho fescue, mountain big sagebrush, needlegrass
 Ecological site: R023XY026NV—Mahogany Savanna

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Engineering" and "Soil Properties" sections

306—Ashtre-Nutzan-Cavin association

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 6,000 to 7,420
 Precipitation: 12 to 18 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 100 days

Composition

Ashtre very gravelly ashy loam, 4 to 30 percent slopes—40 percent

Nutzan very gravelly ashy sandy loam, 4 to 30 percent slopes—30 percent

Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—15 percent

Zorromount gravelly ashy mucky fine sandy loam, 8 to 30 percent slopes—6 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—5 percent

Ashdos very gravelly ashy fine sandy loam, 4 to 15 percent slopes—4 percent

Component Description

Ashtre and similar soils

Landform: Backslopes of ash flows

Slope: 4 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, other shrubs, mountain big sagebrush, other perennial grasses, needlegrass, bluegrass, Idaho fescue

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Component Description

Nutzan and similar soils

Landform: Summits of plateaus

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Idaho fescue, needlegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 4 percent stones

Layer 1—0 to 10 inches; very gravelly ashy sandy loam

Layer 2—10 to 17 inches; gravelly ashy sandy loam

Layer 3—17 to 28 inches; very gravelly ashy sandy loam

Layer 4—28 to 36 inches; extremely gravelly ashy coarse sandy loam

Layer 5—36 to 46 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Component Description

Cavin and similar soils

Landform: East to west aspects on shoulders of mountains

Slope: 8 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rock

Typical vegetation: Needlegrass, Idaho fescue, Cusick's bluegrass, bluebunch wheatgrass, mountain big sagebrush, other perennial forbs

Typical profile:

Surface rock fragments: About 4 percent stones

Layer 1—0 to 2 inches; very gravelly ashy sandy loam

Layer 2—2 to 11 inches; very gravelly ashy sandy loam

Layer 3—11 to 18 inches; very gravelly ashy sandy loam

Layer 4—18 to 24 inches; very gravelly ashy sandy loam

Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High,
(Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Zorromount and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent, west to east aspects

Landform: West to east aspects on backslopes of mountains

Typical vegetation: Cusick's bluegrass, curlleaf mountainmahogany, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, needlegrass

Ecological site: R023XY026NV—Mahogany Savanna

Hutchley and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Summits of mountains

Typical vegetation: Other perennial forbs, antelope bitterbrush, bluebunch wheatgrass, needlegrass, basin wildrye, Idaho fescue, mountain big sagebrush

Ecological site: R023XY008NV—Mountain ridge

Ashdos and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Backslopes of ash flows

Typical vegetation: Needlegrass, low sagebrush, Idaho fescue, bluegrass, other shrubs, other perennial forbs

Ecological site: R023XY079NV—Ashy claypan (cool) 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section

"Engineering" and "Soil Properties" sections

307—Ashtre-Tusune-Brownsbowl association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,610 to 6,700

Precipitation: 12 to 16 inches

Air temperature: 42 to 45 degrees Fahrenheit

Frost-free period: 60 to 100 days

Composition

Ashtre very gravelly ashy loam, 15 to 30 percent slopes—50 percent

Tusune gravelly ashy loam, 15 to 30 percent slopes—20 percent

Brownsbowl gravelly ashy sandy loam, 15 to 30 percent slopes—15 percent

Nutzan very gravelly ashy sandy loam, 15 to 30 percent slopes—6 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—5 percent

Cavin very gravelly ashy sandy loam, 30 to 50 percent slopes—2 percent

Rock outcrop—1 percent

Snag very stony ashy sandy loam, 4 to 15 percent slopes—1 percent

Component Description**Ashtre and similar soils**

Landform: Backslopes of ash flows

Slope: 15 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue, needlegrass, other perennial forbs, mountain big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Component Description

Tusune and similar soils

Landform: Footslopes of plateaus

Slope: 15 to 30 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs, Cusick's bluegrass, Idaho fescue

Typical profile:

Surface rock fragments: About 2 percent stones, 2 percent cobbles, 28 percent gravel

Layer 1—0 to 2 inches; gravelly ashy loam

Layer 2—2 to 10 inches; gravelly ashy loam

Layer 3—10 to 38 inches; very gravelly ashy clay loam

Layer 4—38 to 48 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY054NV—Steep north slope

Component Description

Brownsbowl and similar soils

Landform: Northeast to northwest aspects on plateaus

Slope: 15 to 30 percent, northeast to northwest aspects

Parent material: Volcanic ash and colluvium derived from andesite

Typical vegetation: Needlegrass, mountain brome, melic, other perennial forbs, other shrubs, Idaho fescue, mountain big sagebrush

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam

Layer 2—10 to 28 inches; gravelly ashy sandy loam

Layer 3—28 to 34 inches; cobbly ashy sandy loam

Layer 4—34 to 41 inches; very cobbly ashy sandy loam

Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nutzan and similar soils

Composition: 0 to 6 percent

Slope: 15 to 30 percent

Landform: Summits of plateaus

Typical vegetation: Needlegrass, Idaho fescue, other perennial grasses, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Cowbell and similar soils

Composition: 0 to 5 percent

Slope: 4 to 30 percent, east to west aspects

Landform: East to west aspects on backslopes of plateaus

Typical vegetation: Needlegrass, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curlleaf mountainmahogany

Ecological site: R023XY026NV—Mahogany Savanna

Cavin and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent, east to west aspects

Landform: East to west aspects on shoulders of plateaus

Typical vegetation: Needlegrass, Idaho fescue, Cusick's bluegrass, other perennial forbs, bluebunch wheatgrass, mountain big sagebrush

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Rock outcrop

Composition: 0 to 1 percent

Landform: Ridges

Snag and similar soils

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Ground moraines

Typical vegetation: Needlegrass, mountain brome, Idaho fescue, basin wildrye, bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs, snowberry

Ecological site: R023XY019NV—Loamy 16+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

308—Bicondoa clay**Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 4,470 to 4,530

Precipitation: 7 to 12 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 70 to 90 days

Composition

Bicondoa clay, 0 to 2 percent slopes—90 percent

Cuminvar muck, 0 to 2 percent slopes—4 percent

Hussa ashy clay loam, 0 to 2 percent slopes—4 percent

Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—2 percent

Component Description**Bicondoa and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from basalt and/or alluvium derived from tuff

Typical profile:

Layer 1—0 to 11 inches; clay

Layer 2—11 to 62 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Available water capacity: About 8 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w

Nonirrigated land capability: 4w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Cuminvar and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Hussa and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Crutcher and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Black greasewood, Nevada bluegrass, basin wildrye, inland saltgrass

Ecological site: R023XY010NV—Saline bottom

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

309—Bicondoa-Crutcher complex

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,470 to 4,520
 Precipitation: 7 to 12 inches
 Air temperature: 43 to 48 degrees Fahrenheit
 Frost-free period: 70 to 120 days

Composition

Bicondoa clay, 0 to 2 percent slopes—60 percent
 Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—30 percent
 Lolak silty clay, 0 to 2 percent slopes—6 percent
 Cuminvar muck, 0 to 2 percent slopes—4 percent

Component Description

Bicondoa and similar soils

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from basalt and/or alluvium derived from tuff
 Typical vegetation: Black greasewood, Nevada bluegrass, basin wildrye, inland saltgrass

Typical profile:

Layer 1—0 to 11 inches; clay
 Layer 2—11 to 62 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Salinity: Saline within 40 inches
 Available water capacity: About 8 inches
 Present flooding: Occasional
 Present ponding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w
 Nonirrigated land capability: 4w
 Ecological site: R023XY010NV—Saline bottom

Component Description

Crutcher and similar soils

Landform: Alluvial flats
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and alluvium over lacustrine deposits
 Typical vegetation: Nevada bluegrass, basin wildrye, inland saltgrass, black greasewood

Typical profile:

Layer 1—0 to 5 inches; ashy very fine sandy loam
 Layer 2—5 to 15 inches; ashy loam
 Layer 3—15 to 22 inches; ashy silt loam
 Layer 4—22 to 43 inches; stratified ashy sandy loam to ashy silty clay loam
 Layer 5—43 to 74 inches; paragravelly ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 11 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY010NV—Saline bottom

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lolak and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, black greasewood
 Ecological site: R023XY010NV—Saline bottom

Cuminvar and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

310—Bidwell ashy loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,460 to 4,770
 Precipitation: 12 to 15 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 130 days

Composition

Bidwell ashy loam, 0 to 2 percent slopes—90 percent
 Surprise gravelly ashy sandy loam, 2 to 5 percent slopes—7 percent
 Buntingville ashy loam, 0 to 2 percent slopes—3 percent

Component Description**Bidwell and similar soils**

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from tuff
 Typical vegetation: Bluegrass, big sagebrush, Thurber's needlegrass, antelope bitterbrush, other shrubs, other perennial forbs, bluebunch wheatgrass

Typical profile:

Layer 1—0 to 4 inches; ashy loam
 Layer 2—4 to 32 inches; ashy clay loam
 Layer 3—32 to 73 inches; gravelly ashy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 11 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3s
 Nonirrigated land capability: 4s
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Surprise and similar soils**

Composition: 0 to 7 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Big sagebrush, other shrubs, antelope bitterbrush, bluebunch wheatgrass, bluegrass, Thurber's needlegrass, other perennial forbs
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Buntingville and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

311—Bidwell ashy loam, 2 to 5 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,460 to 4,810
 Precipitation: 12 to 15 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 80 to 130 days

Composition

Bidwell ashy loam, 2 to 5 percent slopes—85 percent
 Surprise gravelly ashy sandy loam, 2 to 5 percent slopes—7 percent
 Dangvar ashy loam, 2 to 5 percent slopes—3 percent

Donica gravelly ashy sandy loam, 2 to 5 percent slopes—3 percent
 Buntingville ashy loam, 2 to 5 percent slopes—2 percent

Component Description

Bidwell and similar soils

Landform: Fan remnants
 Slope: 2 to 5 percent
 Parent material: Alluvium derived from tuff
 Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush, other shrubs, big sagebrush

Typical profile:

Layer 1—0 to 4 inches; ashy loam
 Layer 2—4 to 32 inches; ashy clay loam
 Layer 3—32 to 73 inches; gravelly ashy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 11 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e
 Nonirrigated land capability: 4e
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Surprise and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Other perennial forbs, big sagebrush, Thurber's needlegrass, bluebunch wheatgrass, bluegrass, antelope bitterbrush, other shrubs
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Dangvar and similar soils

Composition: 0 to 3 percent

Slope: 2 to 5 percent
 Landform: Summits of lake terraces
 Typical vegetation: Lemmon's alkaligrass, other perennial grasses, Nevada bluegrass, basin wildrye, inland saltgrass
 Ecological site: R023XY002NV—Saline meadow

Donica and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, big sagebrush, other shrubs, bluebunch wheatgrass, antelope bitterbrush
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Buntingville and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Sedge, Nevada bluegrass, other perennial grasses, other perennial forbs
 Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

312—Bitner-Ashcamp association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,660 to 6,310
 Precipitation: 10 to 14 inches
 Air temperature: 44 to 47 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Bitner very gravelly ashy sandy loam, 4 to 30 percent slopes—50 percent
 Ashcamp ashy sandy loam, 2 to 15 percent slopes—35 percent
 Devada very cobbly loam, 4 to 15 percent slopes—6 percent
 Bucklake very stony loam, 15 to 30 percent slopes—5 percent

Ashtre very gravelly ashy loam, 4 to 15 percent slopes—
2 percent

Reywat very stony loam, 15 to 30 percent slopes—2
percent

Component Description

Bitner and similar soils

Landform: Shoulders of plateaus

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from
pyroclastic and extrusive volcanic rocks

Typical vegetation: Idaho fescue, bluebunch wheatgrass,
big sagebrush, antelope bitterbrush, Thurber's
needlegrass

Typical profile:

Layer 1—0 to 7 inches; very gravelly ashy sandy loam

Layer 2—7 to 13 inches; gravelly ashy sandy loam

Layer 3—13 to 27 inches; gravelly ashy sandy loam

Layer 4—27 to 37 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40
inches

Saturated hydraulic conductivity class (root zone): High,
(Permeability class: Moderately rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY096NV—Ashy sandy loam 10-12
P.Z.

Component Description

Ashcamp and similar soils

Landform: Shoulders of plateaus

Slope: 2 to 15 percent

Parent material: Colluvium derived from pyroclastic rock
and residuum weathered from pyroclastic rock

Typical vegetation: Thurber's needlegrass, bluebunch
wheatgrass, other perennial forbs, big sagebrush

Typical profile:

Layer 1—0 to 3 inches; ashy sandy loam

Layer 2—3 to 7 inches; ashy sandy loam

Layer 3—7 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 7 to 14
inches

Saturated hydraulic conductivity class (root zone): High,
(Permeability class: Moderately rapid)

Available water capacity: About 1.1 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Typical soil descriptions including ranges in
characteristics are in the "Classification of the Soils"
section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Thurber's needlegrass, low
sagebrush, bluebunch wheatgrass, other perennial
forbs, bluegrass

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Bucklake and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Basin wildrye, antelope bitterbrush,
Wyoming big sagebrush, bluebunch wheatgrass,
Thurber's needlegrass

Ecological site: R023XY039NV—Loamy slope 10-14
P.Z.

Ashtre and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Backslopes of ash flows

Typical vegetation: Idaho fescue, bluegrass, other
perennial grasses, bluebunch wheatgrass,
needlegrass, other perennial forbs, mountain big
sagebrush, other shrubs

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Reywat and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent, east to west aspects

Landform: East to west aspects on backslopes of long and narrow plateaus

Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, Wyoming big sagebrush, Thurber's needlegrass, basin wildrye

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

313—Bombadil-Brubeck association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,240 to 5,610

Precipitation: 8 to 12 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 60 to 110 days

Composition

Bombadil gravelly loam, 4 to 15 percent slopes—55 percent

Brubeck very cobbly clay, 4 to 8 percent slopes—35 percent

Cormol very cobbly ashy loam, 15 to 30 percent slopes—4 percent

Ceejay very stony loam, 4 to 15 percent slopes—3 percent

Reywat very stony loam, 15 to 30 percent slopes—3 percent

Component Description

Bombadil and similar soils

Landform: Summits of upper plateaus

Slope: 4 to 15 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 6 inches; gravelly loam

Layer 3—6 to 10 inches; gravelly clay loam

Layer 4—10 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Brubeck and similar soils

Landform: Backslopes of upper plateaus

Slope: 4 to 8 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Bottlebrush squirreltail, thickspike wheatgrass, creeping wildrye, other perennial grasses, other perennial forbs, basin big sagebrush, other shrubs, rubber rabbitbrush, littleleaf horsebrush

Typical profile:

Surface rock fragments: About 3 percent stones

Layer 1—0 to 3 inches; very cobbly clay

Layer 2—3 to 23 inches; clay

Layer 3—23 to 29 inches; clay

Layer 4—29 to 39 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY033NV—Clayey 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cormol and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent, east to southwest aspects

Landform: East to southwest aspects on backslopes of plateaus

Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Ceejay and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Backslopes of smooth upper plateaus

Typical vegetation: Indian ricegrass, Lahontan sagebrush, other shrubs, Webber needlegrass, Thurber's needlegrass, other perennial forbs

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Reywat and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent, east to west aspects

Landform: East to west aspects on backslopes of long and narrow plateaus

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush, basin wildrye

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

314—Bombadil-Ceejay association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,860 to 6,440

Precipitation: 8 to 12 inches

Air temperature: 46 to 54 degrees Fahrenheit

Frost-free period: 80 to 110 days

Composition

Bombadil cobbly loam, 4 to 30 percent slopes—45 percent

Ceejay gravelly loam, 4 to 30 percent slopes—40 percent

Saraph very cobbly ashy sandy loam, 8 to 30 percent slopes—5 percent

Reywat very stony loam, 15 to 50 percent slopes—4 percent

Ceejay very stony fine sandy loam, 15 to 50 percent slopes—3 percent

Ferver very cobbly loam, 2 to 15 percent slopes—2 percent

Rock outcrop—1 percent

Component Description

Bombadil and similar soils

Landform: Summits of plateaus

Slope: 4 to 30 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 6 percent stones, 13 percent cobbles, 13 percent gravel

Layer 1—0 to 3 inches; cobbly loam

Layer 2—3 to 6 inches; gravelly loam

Layer 3—6 to 14 inches; gravelly clay loam

Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Ceejay and similar soils

Landform: Backslopes of plateaus

Slope: 4 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Webber needlegrass, other shrubs, Lahontan sagebrush, other perennial forbs, Thurber's needlegrass, Indian ricegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 6 percent cobbles, 17 percent gravel

Layer 1—0 to 6 inches; gravelly loam

Layer 2—6 to 15 inches; cobbly clay loam

Layer 3—15 to 26 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Saraph and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Summits of rock pediments

Typical vegetation: Other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Reywat and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Basin wildrye, bluebunch wheatgrass, Thurber's needlegrass, antelope bitterbrush, Wyoming big sagebrush

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Ceejay and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Lahontan sagebrush, other perennial forbs, other shrubs, Webber needlegrass, Thurber's needlegrass, Indian ricegrass

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Ferver and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Toeslopes of plateaus

Typical vegetation: Thurber's needlegrass, low sagebrush, bluegrass, other perennial forbs, Webber needlegrass

Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Rock outcrop

Composition: 0 to 1 percent

Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

315—Bombadil-Chime association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,930 to 5,550
 Precipitation: 8 to 11 inches
 Air temperature: 46 to 48 degrees Fahrenheit
 Frost-free period: 90 to 120 days

Composition

Bombadil cobbly loam, 4 to 30 percent slopes—60 percent
 Chime gravelly loam, 2 to 15 percent slopes—25 percent
 Corral stony loam, 15 to 30 percent slopes—7 percent
 Schamp loam, 2 to 15 percent slopes—5 percent
 McConnel gravelly sandy loam, 0 to 2 percent slopes—3 percent

Component Description

Bombadil and similar soils

Landform: Plateaus
 Slope: 4 to 30 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage

Typical profile:

Surface rock fragments: About 6 percent stones, 13 percent cobbles, 13 percent gravel
 Layer 1—0 to 3 inches; cobbly loam
 Layer 2—3 to 6 inches; gravelly loam
 Layer 3—6 to 14 inches; gravelly clay loam
 Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Component Description

Chime and similar soils

Landform: Plateaus
 Slope: 2 to 15 percent
 Parent material: Residuum derived from tuffaceous rocks
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage

Typical profile:

Layer 1—0 to 7 inches; gravelly loam
 Layer 2—7 to 16 inches; clay loam
 Layer 3—16 to 25 inches; gravelly loam
 Layer 4—25 to 35 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 30 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4e
 Nonirrigated land capability: 7s
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Corral and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Plateaus
 Typical vegetation: Other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Schamp and similar soils

Composition: 0 to 5 percent

Slope: 2 to 15 percent

Landform: Plateaus

Typical vegetation: Other perennial forbs, Thurber's needlegrass, Wyoming big sagebrush, other shrubs, other perennial grasses, Indian ricegrass

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

McConnel occasionally flooded and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Other perennial forbs, basin wildrye, Nevada bluegrass, basin big sagebrush, western wheatgrass

Ecological site: R023XY005NV—Dry floodplain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

316—Bombadil-Grassy can association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,680 to 6,390

Precipitation: 8 to 10 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 80 to 110 days

Composition

Bombadil very gravelly sandy loam, 4 to 15 percent slopes—60 percent

Grassy can extremely gravelly sandy loam, 4 to 15 percent slopes—25 percent

Ashcamp ashy sandy loam, 2 to 15 percent slopes—6 percent

Saraph very gravelly ashy sandy loam, 4 to 15 percent slopes—5 percent

Fulstone very gravelly sandy loam, 2 to 8 percent slopes—4 percent

Component Description**Bombadil and similar soils**

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 6 percent stones, 13 percent cobbles, 13 percent gravel, 2 percent fine gravel

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 6 inches; gravelly loam

Layer 3—6 to 10 inches; gravelly clay loam

Layer 4—10 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description**Grassy can and similar soils**

Landform: Summits of plateaus

Slope: 4 to 15 percent

Parent material: Residuum derived from volcanic rocks
Typical vegetation: Sandberg bluegrass, other perennial grasses, low sagebrush, other perennial forbs, Webber needlegrass

Typical profile:

Layer 1—0 to 4 inches; extremely gravelly sandy loam

Layer 2—4 to 12 inches; clay

Layer 3—12 to 13 inches; cemented material

Layer 4—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Duripan: 7 to 14 inches

Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)

Available water capacity: About 1.4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ashcamp and similar soils

Composition: 0 to 6 percent

Slope: 2 to 15 percent

Landform: Shoulders of plateaus

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, big sagebrush

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Saraph and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Summits of rock pediments

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial grasses, other perennial forbs, Thurber's needlegrass, Indian ricegrass

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Fulstone and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Indian ricegrass, Thurber's needlegrass, Webber needlegrass, other shrubs, other perennial forbs, Lahontan sagebrush

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

317—Bombadil-Saraph association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,810 to 5,100

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Bombadil gravelly loam, 4 to 15 percent slopes—55 percent

Saraph gravelly ashy loam, 4 to 15 percent slopes—30 percent

Bombadil cobbly loam, 15 to 50 percent slopes—5 percent

Macnot very gravelly ashy sandy loam, 2 to 8 percent slopes—5 percent

Nomazu ashy very fine sandy loam, 2 to 8 percent slopes—5 percent

Component Description

Bombadil and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Other perennial grasses, Indian ricegrass, Thurber's needlegrass, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 6 inches; gravelly loam

Layer 3—6 to 10 inches; gravelly clay loam

Layer 4—10 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description**Saraph and similar soils**

Landform: Summits of rock pediments

Slope: 4 to 15 percent

Parent material: Residuum weathered from tuff

Typical vegetation: Other perennial forbs, other shrubs, Wyoming big sagebrush, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 4 inches; gravelly ashy loam

Layer 2—4 to 9 inches; ashy sandy loam

Layer 3—9 to 16 inches; ashy clay loam

Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Bombadil and similar soils**

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Plateaus

Typical vegetation: Other shrubs, Wyoming big sagebrush, Indian ricegrass, other perennial forbs, other perennial grasses, Thurber's needlegrass

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Macnot and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Beach terraces

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, Thurber's needlegrass, other shrubs, Indian ricegrass, spiny hopsage

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Nomazu non-saline surface and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Basin-floor remnants

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, bud sagebrush, winterfat

Ecological site: R024XY004NV—Silty 4-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

318—Boulder Lake clay**Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 5,490 to 6,410

Precipitation: 10 to 16 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 60 to 90 days

Composition

Boulder Lake clay, 0 to 2 percent slopes—85 percent

Weimer clay, 0 to 2 percent slopes—8 percent

Grimlake cobbly clay, 0 to 2 percent slopes—6 percent

Macyflet silt loam, 0 to 2 percent slopes—1 percent

Component Description**Boulder Lake and similar soils**

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Other perennial forbs, Nevada bluegrass, wildrye, silver sagebrush, mat muhly

Typical profile:

Layer 1—0 to 2 inches; clay

Layer 2—2 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Negligible
 Saturated hydraulic conductivity class (root zone): Low,
 (Permeability class: Very slow)
 Available water capacity: About 9 inches
 Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 6w
 Nonirrigated land capability: 6w
 Ecological site: R023XY003NV—Clay basin

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Weimer and similar soils**

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Lake plains
 Typical vegetation: Other perennial forbs, other perennial grasses, mat muhly, povertyweed, other annual forbs
 Ecological site: R023XY023NV—Wet clay basin

Grimlake and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Lakeplain alluvial flats
 Typical vegetation: Other perennial forbs, Nevada bluegrass, sedge, other perennial grasses
 Ecological site: R023XY013NV—Dry meadow

Macyflet and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 2 percent
 Landform: Alluvial flats
 Typical vegetation: Other perennial forbs, early sagebrush, Nevada bluegrass, Cusick's bluegrass, basin wildrye, needlegrass
 Ecological site: R023XY090NV—Clay plain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section

"Engineering" and "Soil Properties" sections

319—Boulderfan ashy loam, 2 to 8 percent slopes**Map Unit Setting**

MLRA: 21
 Landscape: Intermontane basin
 Elevation: 6,680 to 7,980
 Precipitation: 20 to 25 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Boulderfan ashy loam, 2 to 8 percent slopes—90 percent
 Dismalswamp ashy loam, cool, 2 to 15 percent slopes—4 percent
 Paynepeak gravelly ashy loam, cool, 4 to 15 percent slopes—4 percent
 Dismalswamp ashy loam, cool, 2 to 15 percent slopes—1 percent
 Pyropatti gravelly ashy loam, cool, 4 to 30 percent slopes—1 percent

Component Description**Boulderfan and similar soils**

Landform: Ground moraines
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from andesite and pyroclastic rock
 Typical vegetation: Roundleaf snowberry, other perennial forbs, silver sagebrush, needlegrass, other perennial grasses

Typical profile:

Layer 1—0 to 10 inches; ashy loam
 Layer 2—10 to 26 inches; extremely cobbly ashy loam
 Layer 3—26 to 35 inches; ashy loam
 Layer 4—35 to 60 inches; ashy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 11 inches
 Present flooding: Rare
 Present ponding: None

Water table: Present
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: R021XE203CA—Moist mountain basin

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dismalswamp and similar soils

Composition: 0 to 4 percent
Slope: 2 to 15 percent
Landform: Mountain valleys
Typical vegetation: Nebraska sedge, sedge, willow, silver sagebrush, other perennial forbs, Baltic rush, meadow barley, tufted hairgrass
Ecological site: R021XE208CA—Semi-wet meadow

Paynepeak and similar soils

Composition: 0 to 4 percent
Slope: 4 to 15 percent
Landform: Mountain slopes
Typical vegetation: Needlegrass, mountain brome, bluegrass, roundleaf snowberry, other shrubs, mountain big sagebrush, other perennial forbs, other perennial grasses
Ecological site: R021XE222CA—Loamy slope

Dismalswamp and similar soils

Composition: 0 to 1 percent
Slope: 2 to 15 percent
Landform: Mountain valleys
Typical vegetation: Other perennial forbs, tufted hairgrass, Nebraska sedge, water sedge, willow
Ecological site: R021XE207CA—Wet meadow

Pyropatti cool and similar soils

Composition: 0 to 1 percent
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Mountain brome, roundleaf snowberry, other perennial forbs, mountain big sagebrush, quaking aspen
Ecological site: R021XE216CA—Aspen thicket

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

320—Bregar extremely cobbly loam, 2 to 8 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 5,870 to 6,860
Precipitation: 12 to 14 inches
Air temperature: 41 to 43 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Bregar extremely cobbly loam, 2 to 8 percent slopes—90 percent
Tinpan very cobbly loam, 0 to 8 percent slopes—5 percent
Karlo very cobbly clay, 2 to 4 percent slopes—4 percent
Marepas very gravelly ashy mucky sandy loam, 4 to 30 percent slopes—1 percent

Component Description

Bregar and similar soils

Landform: Plateaus
Slope: 2 to 8 percent
Parent material: Residuum and colluvium derived from volcanic rocks
Typical vegetation: Thurber's needlegrass, Webber needlegrass, other perennial forbs, bluegrass, low sagebrush

Typical profile:

Layer 1—0 to 2 inches; extremely cobbly loam
Layer 2—2 to 12 inches; very cobbly clay loam
Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 5 to 12 inches
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Available water capacity: About 1.4 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Tinpan and similar soils

Composition: 0 to 5 percent

Slope: 0 to 8 percent

Landform: Plateaus

Typical vegetation: Bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush, Webber needlegrass, Thurber's needlegrass

Ecological site: R023XY060NV—Cobbly claypan 8-12 P.Z.

Karlo and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Plateaus

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial forbs, other shrubs, low sagebrush, Washoe rubber rabbitbrush

Ecological site: R023XY001NV—Churning clay

Marepas and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent, west to east aspects

Landform: West to east aspects on backslopes of plateaus

Typical vegetation: Forest canopy—Utah juniper Forest understory—Wyoming big sagebrush, Thurber's needlegrass, other perennial forbs, mountain big sagebrush, Utah juniper, other shrubs, other perennial grasses, bluebunch wheatgrass

Ecological site: F023XY036NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

321—Bregar-Cavin-Brownsbowl association

Map Unit Setting

MLRA: 23

Landscape: Hills

Elevation: 5,790 to 7,670

Precipitation: 13 to 15 inches

Air temperature: 42 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Bregar extremely cobbly loam, 2 to 8 percent slopes—50 percent

Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—25 percent

Brownsbowl gravelly ashy sandy loam, 15 to 50 percent slopes—15 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—5 percent

Mosquet very gravelly fine sandy loam, 4 to 15 percent slopes—2 percent

Tusune gravelly ashy loam, 15 to 30 percent slopes—2 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—1 percent

Component Description

Bregar and similar soils

Landform: Hills

Slope: 2 to 8 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, Webber needlegrass, other perennial forbs, bluegrass, low sagebrush

Typical profile:

Layer 1—0 to 2 inches; extremely cobbly loam

Layer 2—2 to 12 inches; very cobbly clay loam

Layer 3—12 to 22 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 5 to 12 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Component Description

Cavin and similar soils

Landform: East to west aspects on shoulders of hills

Slope: 8 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rock

Typical vegetation: Needlegrass, Idaho fescue, Cusick's bluegrass, other perennial forbs, bluebunch wheatgrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 2 inches; very gravelly ashy sandy loam

Layer 2—2 to 11 inches; very gravelly ashy sandy loam

Layer 3—11 to 18 inches; very gravelly ashy sandy loam

Layer 4—18 to 24 inches; very gravelly ashy sandy loam

Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description

Brownsbowl and similar soils

Landform: Northeast to northwest aspects on hills

Slope: 15 to 50 percent, northeast to northwest aspects

Parent material: Volcanic ash and colluvium derived from andesite

Typical vegetation: Needlegrass, mountain brome, melic, other perennial forbs, other shrubs, Idaho fescue, mountain big sagebrush

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam

Layer 2—10 to 28 inches; gravelly ashy sandy loam

Layer 3—28 to 34 inches; cobbly ashy sandy loam

Layer 4—34 to 41 inches; very cobbly ashy sandy loam

Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Snag and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Ground moraines

Typical vegetation: Needlegrass, mountain brome, Idaho fescue, basin wildrye, bluegrass, other perennial grasses, other perennial forbs, snowberry, other shrubs, mountain big sagebrush

Ecological site: R023XY019NV—Loamy 16+ P.Z.

Mosquet and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent, north aspect

Landform: North facing hills

Typical vegetation: Idaho fescue, bluegrass, other perennial grasses, other perennial forbs, low sagebrush

Ecological site: R023XY014NV—Shallow loam 14+ P.Z.

Tusune and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Footslopes of hills

Typical vegetation: Idaho fescue, Cusick's bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs

Ecological site: R023XY054NV—Steep north slope

Hutchley and similar soils

Composition: 0 to 1 percent

Slope: 4 to 15 percent, north aspect

Landform: North facing summits of plateaus

Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, basin wildrye, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R023XY008NV—Mountain ridge

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

322—Brownsbowl-Cowbell association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,430 to 7,260

Precipitation: 12 to 18 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—50 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—40 percent

Hashwoods ashy fine sandy loam, 4 to 15 percent slopes—5 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—3 percent

Nutzan very gravelly ashy sandy loam, 8 to 15 percent slopes—2 percent

Component Description

Brownsbowl and similar soils

Landform: Northeast to northwest aspects on plateaus

Slope: 8 to 15 percent, northeast to northwest aspects

Parent material: Volcanic ash and colluvium derived from andesite

Typical vegetation: Needlegrass, mountain brome, melic, other perennial forbs, other shrubs, Idaho fescue, mountain big sagebrush

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam

Layer 2—10 to 28 inches; gravelly ashy sandy loam

Layer 3—28 to 34 inches; cobbly ashy sandy loam

Layer 4—34 to 41 inches; very cobbly ashy sandy loam

Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Component Description

Cowbell and similar soils

Landform: East to west aspects on backslopes of plateaus

Slope: 4 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rocks

Typical vegetation: Idaho fescue, Cusick's bluegrass, bluebunch wheatgrass, needlegrass, mountain big sagebrush, curleaf mountainmahogany

Typical profile:

Surface rock fragments: About 8 percent stones

Layer 1—0 to 3 inches; extremely cobbly ashy mucky sandy loam

Layer 2—3 to 9 inches; extremely cobbly ashy loam

Layer 3—9 to 40 inches; very cobbly ashy sandy clay loam

Layer 4—40 to 60 inches; very gravelly ashy sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY026NV—Mahogany Savanna

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Hashwoods and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on plateaus

Typical vegetation: Forest canopy—quaking aspen

Forest understory—Nevada bluegrass, slender wheatgrass, mountain brome, quaking aspen, snowberry, other shrubs, other perennial forbs, other perennial grasses

Ecological site: F023XY028NV

Snag and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Ground moraines

Typical vegetation: Idaho fescue, snowberry, other shrubs, mountain big sagebrush, other perennial forbs, other perennial grasses, bluegrass, mountain brome, needlegrass, basin wildrye

Ecological site: R023XY019NV—Loamy 16+ P.Z.

Nutzan and similar soils

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Other perennial forbs, needlegrass, other shrubs, antelope bitterbrush, mountain big sagebrush, Idaho fescue, other perennial grasses

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

323—Brownsbowl-Hashwoods association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,440 to 7,260

Precipitation: 12 to 16 inches

Air temperature: 42 to 47 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—50 percent

Hashwoods ashy fine sandy loam, 4 to 15 percent slopes—35 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—5 percent

Mosquet very gravelly fine sandy loam, 4 to 15 percent slopes—5 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—3 percent

Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—2 percent

Component Description**Brownsbowl and similar soils**

Landform: Northeast to northwest aspects on toeslopes of plateaus

Slope: 8 to 15 percent, northeast to northwest aspects

Parent material: Volcanic ash and colluvium derived from andesite

Typical vegetation: Other shrubs, other perennial forbs, melic, mountain brome, needlegrass, Idaho fescue, mountain big sagebrush

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam

Layer 2—10 to 28 inches; gravelly ashy sandy loam

Layer 3—28 to 34 inches; cobbly ashy sandy loam

Layer 4—34 to 41 inches; very cobbly ashy sandy loam

Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Component Description**Hashwoods and similar soils**

Landform: Northwest to northeast aspects on footslopes of plateaus

Slope: 4 to 15 percent, northwest to northeast aspects
 Parent material: Volcanic ash and colluvium derived from andesite over residuum weathered from tuff breccia
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—snowberry, quaking aspen, other perennial grasses, other perennial forbs, other shrubs, mountain brome, slender wheatgrass, Nevada bluegrass
 Site index: Quaking aspen—40 at an age base of 50 years

Typical profile:

Layer 1—0 to 15 inches; ashy fine sandy loam
 Layer 2—15 to 31 inches; very cobbly ashy fine sandy loam
 Layer 3—31 to 48 inches; very paragravelly ashy loam
 Layer 4—48 to 59 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
 Ecological site: F023XY028NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hutchley and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Summits of plateaus
 Typical vegetation: Antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, needlegrass, basin wildrye, Idaho fescue, mountain big sagebrush
 Ecological site: R023XY008NV—Mountain ridge

Mosquet and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent, north aspect
 Landform: North facing plateaus
 Typical vegetation: Low sagebrush, other perennial forbs, other perennial grasses, bluegrass, Idaho fescue
 Ecological site: R023XY014NV—Shallow loam 14+ P.Z.

Snag and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 8 percent
 Landform: On plateaus ground moraines
 Typical vegetation: Basin wildrye, Idaho fescue, mountain brome, bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs, snowberry, needlegrass
 Ecological site: R023XY019NV—Loamy 16+ P.Z.

Cavin and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent, east to west aspects
 Landform: East to west aspects on shoulders of plateaus
 Typical vegetation: Needlegrass, Idaho fescue, mountain big sagebrush, bluebunch wheatgrass, other perennial forbs, Cusick's bluegrass
 Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

324—Brubeck-Diaz association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,960 to 6,030
 Precipitation: 9 to 12 inches
 Air temperature: 45 to 48 degrees Fahrenheit
 Frost-free period: 60 to 100 days

Composition

Brubeck very cobbly clay, 4 to 8 percent slopes—50 percent
 Diaz very cobbly silt loam, 4 to 8 percent slopes—40 percent
 Saraph gravelly ashy loam, 8 to 15 percent slopes—6 percent

Chalco very cobbly loam, 4 to 15 percent slopes—2 percent
 Reywat cobbly loam, 4 to 15 percent slopes—2 percent

Component Description

Brubeck and similar soils

Landform: Plateaus
 Slope: 4 to 8 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Rubber rabbitbrush, other perennial forbs, other perennial grasses, basin big sagebrush, other shrubs, creeping wildrye, thickspike wheatgrass, bottlebrush squirreltail, littleleaf horsebrush

Typical profile:

Surface rock fragments: About 3 percent stones
 Layer 1—0 to 3 inches; very cobbly clay
 Layer 2—3 to 23 inches; clay
 Layer 3—23 to 29 inches; clay
 Layer 4—29 to 39 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XY033NV—Clayey 10-14 P.Z.

Component Description

Diaz and similar soils

Landform: Backslopes of plateaus
 Slope: 4 to 8 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Perennial grasses

Typical profile:

Surface rock fragments: About 20 percent cobbles, 0 percent stones
 Layer 1—0 to 3 inches; very cobbly silt loam
 Layer 2—3 to 7 inches; silty clay loam

Layer 3—7 to 25 inches; silty clay
 Layer 4—25 to 32 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Saraph and similar soils

Composition: 0 to 6 percent
 Slope: 8 to 15 percent
 Landform: Summits of rock pediments
 Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Chalco and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Plateaus
 Typical vegetation: Thurber's needlegrass, other shrubs, black sagebrush, other perennial forbs, other perennial grasses, bluebunch wheatgrass
 Ecological site: R023XY052NV—Shallow calcareous loam 8-12 P.Z.

Reywat and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Big sagebrush, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
"Engineering" and "Soil Properties" sections

325—Bucklake-Bombadil-Reywat association**Map Unit Setting**

MLRA: 23
Landscape: Plateau
Elevation: 5,060 to 6,360
Precipitation: 8 to 14 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 50 to 160 days

Composition

Bucklake very stony loam, 30 to 50 percent slopes—40 percent
Bombadil cobbly loam, 4 to 15 percent slopes—30 percent
Reywat very stony loam, 30 to 50 percent slopes—20 percent
Rock outcrop—5 percent
Devada very stony loam, 2 to 15 percent slopes—3 percent
Skedaddle very stony loam, 15 to 50 percent slopes—2 percent

Component Description**Bucklake and similar soils**

Landform: Plateaus
Slope: 30 to 50 percent
Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Antelope bitterbrush, Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 23 percent stones, 14 percent cobbles, 11 percent gravel, 2 percent fine gravel
Layer 1—0 to 8 inches; very stony loam
Layer 2—8 to 12 inches; gravelly clay loam
Layer 3—12 to 24 inches; gravelly clay
Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 3 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description**Bombadil and similar soils**

Landform: Plateaus
Slope: 4 to 15 percent
Parent material: Residuum derived from volcanic rocks
Typical vegetation: Other shrubs, Thurber's needlegrass, Indian ricegrass, other perennial forbs, other perennial grasses, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 6 percent stones, 13 percent cobbles, 13 percent gravel, 2 percent fine gravel
Layer 1—0 to 2 inches; cobbly loam
Layer 2—2 to 6 inches; gravelly loam
Layer 3—6 to 10 inches; gravelly clay loam
Layer 4—10 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Available water capacity: About 1.6 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description**Reywat and similar soils**

Landform: Plateaus

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Basin wildrye, antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 17 percent stones, 10 percent cobbles, 17 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 18 inches; very gravelly clay loam

Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 5 percent

Landform: Plateaus

Devada and similar soils

Composition: 0 to 3 percent

Slope: 2 to 15 percent

Landform: Plateaus

Typical vegetation: Thurber's needlegrass, other perennial forbs, bluegrass, low sagebrush, bluebunch wheatgrass

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Skedaddle and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on plateaus

Typical vegetation: Wyoming big sagebrush, desert needlegrass, green ephedra, other shrubs, purple sage, bluebunch wheatgrass

Ecological site: R023XY030NV—South slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

326—Bucklake-Fiddler association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,120 to 7,410

Precipitation: 10 to 14 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 70 to 90 days

Composition

Bucklake very cobbly loam, 15 to 50 percent slopes—65 percent

Fiddler very cobbly loam, 15 to 50 percent slopes—20 percent

Devada very stony loam, 15 to 50 percent slopes—8 percent

Menbo very stony loam, 15 to 50 percent slopes—5 percent

Rock outcrop, 50 to 75 percent slopes—2 percent

Component Description**Bucklake and similar soils**

Landform: Plateaus

Slope: 15 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones, 21 percent cobbles, 12 percent gravel
 Layer 1—0 to 8 inches; very cobbly loam
 Layer 2—8 to 12 inches; gravelly clay loam
 Layer 3—12 to 24 inches; gravelly clay
 Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description**Fiddler and similar soils**

Landform: Plateaus
 Slope: 15 to 50 percent
 Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock
 Typical vegetation: Forest canopy—western juniper
 Forest understory—Thurber's needlegrass, Idaho fescue, other perennial grasses, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, other shrubs, Canby bluegrass
 Site index: Western juniper—17 at an age base of 50 years

Typical profile:

Surface rock fragments: About 10 percent stones, 14 percent cobbles, 21 percent gravel
 Layer 1—0 to 7 inches; very cobbly loam
 Layer 2—7 to 28 inches; very cobbly clay
 Layer 3—28 to 38 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: F023XY024NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Devada and similar soils**

Composition: 0 to 8 percent
 Slope: 15 to 50 percent
 Landform: Plateaus
 Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Menbo and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Shoulders of plateaus
 Typical vegetation: Antelope bitterbrush, needlegrass, Idaho fescue, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, basin wildrye
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Rock outcrop

Composition: 0 to 2 percent
 Slope: 50 to 75 percent
 Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

327—Bucklake-Mcwatt-Rubble land association

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 4,480 to 6,060
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 50 to 100 days

Composition

Bucklake very cobbly loam, 30 to 50 percent slopes—40 percent
 Mcwatt very stony sandy loam, 30 to 50 percent slopes—30 percent
 Rubble land, 30 to 50 percent slopes—20 percent
 Devada very cobbly loam, 15 to 30 percent slopes—4 percent
 Gorzell very gravelly sandy loam, 15 to 30 percent slopes—3 percent
 Old Camp very stony sandy loam, 8 to 30 percent slopes—3 percent

Component Description

Bucklake and similar soils

Landform: Mountains
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Wyoming big sagebrush, bluebunch wheatgrass, Thurber's needlegrass, antelope bitterbrush, basin wildrye

Typical profile:

Surface rock fragments: About 10 percent stones, 21 percent cobbles, 12 percent gravel, 2 percent fine gravel
 Layer 1—0 to 8 inches; very cobbly loam
 Layer 2—8 to 12 inches; gravelly clay loam
 Layer 3—12 to 24 inches; gravelly clay
 Layer 4—24 to 34 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None

Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Mcwatt and similar soils

Landform: Beach terraces
 Slope: 30 to 50 percent
 Parent material: Alluvium derived from igneous and sedimentary rock
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage

Typical profile:

Layer 1—0 to 10 inches; very stony sandy loam
 Layer 2—10 to 20 inches; extremely gravelly fine sandy loam
 Layer 3—20 to 44 inches; extremely gravelly sand
 Layer 4—44 to 54 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Component Description

Rubble land

Landform: Mountain slopes
 Slope: 30 to 50 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Summits of mountains

Typical vegetation: Low sagebrush, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, bluegrass

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Gorzell and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Beach terraces

Typical vegetation: Wyoming big sagebrush, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, other shrubs, spiny hopsage, Sandberg bluegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Old Camp and similar soils

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

328—Bucklake-Reywat association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 4,700 to 6,520

Precipitation: 10 to 14 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 50 to 120 days

Composition

Bucklake very cobbly loam, 30 to 50 percent slopes—60 percent

Reywat very stony loam, 30 to 50 percent slopes—25 percent

Devada very cobbly loam, 8 to 30 percent slopes—6 percent

Old Camp very stony loam, 8 to 15 percent slopes—6 percent

Pickup very stony loam, 30 to 50 percent slopes—2 percent

Hart Camp stony loam, 15 to 30 percent slopes—1 percent

Component Description

Bucklake and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones, 21 percent cobbles, 12 percent gravel, 2 percent fine gravel

Layer 1—0 to 8 inches; very cobbly loam

Layer 2—8 to 12 inches; gravelly clay loam

Layer 3—12 to 24 inches; gravelly clay

Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description**Reywat and similar soils**

Landform: East to west aspects on backslopes of mountains

Slope: 30 to 50 percent, east to west aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Wyoming big sagebrush, Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 18 inches; very gravelly clay loam

Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Devada and similar soils**

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Summits of mountains

Typical vegetation: Low sagebrush, bluebunch wheatgrass, Thurber's needlegrass, bluegrass, other perennial forbs

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Old Camp and similar soils

Composition: 0 to 6 percent

Slope: 8 to 15 percent

Landform: Summits of mountains

Typical vegetation: Wyoming big sagebrush, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Pickup and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Lahontan sagebrush, other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Hart Camp and similar soils

Composition: 0 to 1 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, antelope bitterbrush, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

329—Bucklake-Rock outcrop-Corral association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 4,640 to 6,030

Precipitation: 8 to 12 inches

Air temperature: 44 to 47 degrees Fahrenheit

Frost-free period: 70 to 90 days

Composition

Bucklake very cobbly loam, 30 to 50 percent slopes—50 percent

Rock outcrop—20 percent

Corral stony loam, 15 to 50 percent slopes—15 percent

Devada very cobbly loam, 15 to 30 percent slopes—5 percent

Pachic Argixerolls very cobbly loam, 30 to 50 percent slopes—5 percent
 Reywat very stony loam, 15 to 30 percent slopes—5 percent

Component Description

Bucklake and similar soils

Landform: Plateaus
 Slope: 30 to 50 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones, 21 percent cobbles, 12 percent gravel
 Layer 1—0 to 8 inches; very cobbly loam
 Layer 2—8 to 12 inches; gravelly clay loam
 Layer 3—12 to 24 inches; gravelly clay
 Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Rock outcrop

Landform: Plateaus

Component Description

Corral and similar soils

Landform: Plateaus
 Slope: 15 to 50 percent
 Parent material: Residuum derived from tuffaceous rocks

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 11 percent cobbles, 9 percent gravel, 10 percent stones
 Layer 1—0 to 7 inches; stony loam
 Layer 2—7 to 16 inches; sandy clay loam
 Layer 3—16 to 26 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 12 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Summits of plateaus
 Typical vegetation: Thurber's needlegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush, bluegrass
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Pachic Argixerolls and similar soils

Composition: 0 to 5 percent
 Classification: Loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls
 Slope: 30 to 50 percent, north aspect
 Landform: North facing plateaus
 Typical vegetation: Antelope bitterbrush, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, basin wildrye, needlegrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Reywat and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush, Thurber's needlegrass

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

330—Bucklake-Softscrabble-Devada association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,410 to 7,490

Precipitation: 10 to 20 inches

Air temperature: 43 to 50 degrees Fahrenheit

Frost-free period: 50 to 110 days

Composition

Bucklake very cobbly loam, 15 to 50 percent slopes—35 percent

Softscrabble very cobbly loam, 15 to 50 percent slopes—30 percent

Devada cobbly loam, 4 to 30 percent slopes—20 percent

Wylo very stony loam, 2 to 15 percent slopes—6 percent

Xeric Haplargids very stony loam, 15 to 50 percent slopes—4 percent

Rock outcrop—3 percent

Histic Endoaquolls muck, cool, 2 to 30 percent slopes—2 percent

Component Description

Bucklake and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Wyoming big sagebrush, bluebunch wheatgrass, antelope bitterbrush, basin wildrye, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones, 21 percent cobbles, 12 percent gravel, 2 percent fine gravel

Layer 1—0 to 8 inches; very cobbly loam

Layer 2—8 to 12 inches; gravelly clay loam

Layer 3—12 to 24 inches; gravelly clay

Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Softscrabble and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, mountain big sagebrush, other perennial forbs, antelope bitterbrush

Typical profile:

Surface rock fragments: About 8 percent stones, 17 percent cobbles, 30 percent gravel, 3 percent fine gravel

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Component Description

Devada and similar soils

Landform: Mountains

Slope: 4 to 30 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Other perennial forbs, Thurber's needlegrass, bluegrass, bluebunch wheatgrass, low sagebrush

Typical profile:

Surface rock fragments: About 10 percent stones, 17 percent cobbles, 7 percent gravel, 1 percent fine gravel

Layer 1—0 to 4 inches; cobbly loam

Layer 2—4 to 13 inches; clay

Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Wylo and similar soils

Composition: 0 to 6 percent

Slope: 2 to 15 percent

Landform: Mountains

Typical vegetation: Other perennial forbs, bluegrass, bluebunch wheatgrass, Lahontan sagebrush, Thurber's needlegrass

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Xeric Haplargids and similar soils

Composition: 0 to 4 percent

Classification: Clayey, smectitic, mesic Xeric Haplargids

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Other perennial grasses, Indian ricegrass, Thurber's needlegrass, other shrubs, Wyoming big sagebrush, other perennial forbs

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Rock outcrop

Composition: 0 to 3 percent

Landform: Ridges

Histic Endoaquolls and similar soils

Composition: 0 to 2 percent

Classification: Ashy, glassy, frigid Histic Endoaquolls

Slope: 2 to 30 percent

Landform: Swales

Typical vegetation: Other perennial forbs, other perennial grasses, bluegrass, rush, tufted hairgrass, sedge, meadow barley

Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

331—Buffaran-Fulstone association

Map Unit Setting

MLRA: 23

Landscape: Fan piedmont

Elevation: 5,320 to 6,340

Precipitation: 8 to 11 inches

Air temperature: 46 to 52 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Buffaran very cobbly loam, 2 to 8 percent slopes—50 percent

Fulstone very cobbly loam, 2 to 8 percent slopes—35 percent
 Wylo very stony loam, 8 to 15 percent slopes—6 percent
 Old Camp very stony loam, 8 to 15 percent slopes—5 percent
 Ceejay very stony loam, 2 to 8 percent slopes—2 percent
 Devada very stony loam, 4 to 15 percent slopes—2 percent

Component Description

Buffaran and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1—0 to 2 inches; very cobbly loam
 Layer 2—2 to 16 inches; gravelly clay loam
 Layer 3—16 to 27 inches; cemented material
 Layer 4—27 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Fulstone and similar soils

Landform: Summits of fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, Webber needlegrass, other shrubs, other perennial forbs, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 4 inches; very cobbly loam
 Layer 2—4 to 16 inches; clay
 Layer 3—16 to 26 inches; cemented material
 Layer 4—26 to 60 inches; extremely cobbly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Wylo and similar soils

Composition: 0 to 6 percent
 Slope: 8 to 15 percent, southeast to southwest aspects
 Landform: Southeast to southwest aspects on shoulders of hills
 Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, bluegrass, Lahontan sagebrush, other perennial forbs
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Old Camp and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 15 percent
 Landform: Summits of hills
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Ceejay and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Backslopes of hills
 Typical vegetation: Thurber's needlegrass, Webber needlegrass, other shrubs, other perennial forbs, Lahontan sagebrush, Indian ricegrass

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Devada and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Backslopes of hills

Typical vegetation: Bluebunch wheatgrass, Thurber's needlegrass, bluegrass, other perennial forbs, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

332—Bullump very stony loam, 5 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,300 to 5,690

Precipitation: 14 to 18 inches

Air temperature: 41 to 46 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Bullump very stony loam, 5 to 30 percent slopes—90 percent

Booth very stony loam, 5 to 30 percent slopes—3 percent

Bullump extremely gravelly loam, 30 to 50 percent slopes—3 percent

Nuss gravelly loam, 5 to 30 percent slopes—3 percent

Cumulic Haploxerolls very gravelly loam, 0 to 4 percent slopes—1 percent

Component Description

Bullump and similar soils

Landform: Mountains

Slope: 5 to 30 percent

Parent material: Colluvium derived from rhyolite and/or colluvium derived from tuff

Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, bluegrass, basin wildrye, Thurber's needlegrass, mountain big sagebrush, Idaho fescue

Typical profile:

Layer 1—0 to 11 inches; very stony loam

Layer 2—11 to 42 inches; very gravelly clay loam

Layer 3—42 to 60 inches; extremely gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XY210OR—Loamy

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Booth and similar soils

Composition: 0 to 3 percent

Slope: 5 to 30 percent

Landform: Mountains

Typical vegetation: Idaho fescue, Canby bluegrass, bluegrass, bluebunch wheatgrass, shrubby buckwheat, Hooker's balsamroot, low sagebrush, onespoke oatgrass

Ecological site: R021XY216OR—Stony Claypan

Bullump steep and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Mountains

Typical vegetation: Mountain big sagebrush, Idaho fescue, Sandberg bluegrass, bluebunch wheatgrass, antelope bitterbrush, basin wildrye

Ecological site: R021XY312OR—North slopes

Nuss and similar soils

Composition: 0 to 3 percent

Slope: 5 to 30 percent

Landform: Mountains

Typical vegetation: Snowberry, skyline bluegrass, ponderosa pine, Idaho fescue, basin wildrye, curl-leaf mountain mahogany, mountain big sagebrush, western needlegrass

Ecological site: R021XY402OR—Rocky ridges

Cumulic Haploxerolls and similar soils

Composition: 0 to 1 percent

Classification: Loamy-skeletal, mixed, superactive, frigid
Cumulic Haploxerolls

Slope: 0 to 4 percent

Landform: Stream terraces

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye

Ecological site: R023XY056NV—Loamy bottom 12-16 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

333—Buntingville ashy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,480 to 4,720

Precipitation: 12 to 16 inches

Air temperature: 48 to 54 degrees Fahrenheit

Frost-free period: 90 to 130 days

Composition

Buntingville ashy loam, 0 to 2 percent slopes—85 percent

Surprise gravelly ashy sandy loam, 0 to 2 percent slopes—6 percent

Four Star ashy loam, 0 to 2 percent slopes—3 percent

Bicondoa clay, 0 to 2 percent slopes—3 percent

Hussa ashy clay loam, 0 to 2 percent slopes—2 percent

Fluvaquents very gravelly coarse sand, 0 to 1 percent slopes—1 percent

Component Description

Buntingville and similar soils

Landform: Fan remnants

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 4 inches; ashy loam

Layer 2—4 to 24 inches; ashy clay loam

Layer 3—24 to 32 inches; ashy clay loam

Layer 4—32 to 63 inches; stratified ashy loam to ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 13 inches

Present flooding: Frequent

Present ponding: None

Water table: Present

Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 4w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Surprise and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Other perennial forbs, Thurber's needlegrass, big sagebrush, bluegrass, bluebunch wheatgrass, antelope bitterbrush, other shrubs

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Four Star and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Bicondoa and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Hussa and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Fluvaquents and similar soils

Composition: 0 to 1 percent

Classification: Mesic Fluvaquents

Slope: 0 to 1 percent

Landform: Drainageways

Typical vegetation: Forest canopy—black cottonwood
 Forest understory—inland saltgrass, basin wildrye, beardless wildrye, Fremont's cottonwood, other perennial forbs, other perennial grasses, bluebunch wheatgrass, other shrubs
 Ecological site: F023XY034NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

334—Buntingville ashy loam, 2 to 5 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,450 to 4,720

Precipitation: 12 to 16 inches

Air temperature: 48 to 54 degrees Fahrenheit

Frost-free period: 90 to 130 days

Composition

Buntingville ashy loam, 2 to 5 percent slopes—90 percent

Bidwell ashy loam, 2 to 5 percent slopes—5 percent

Hussa ashy clay loam, 0 to 2 percent slopes—3 percent

Dangvar ashy loam, 0 to 2 percent slopes—2 percent

Component Description**Buntingville and similar soils**

Landform: Fan remnants

Slope: 2 to 5 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Other perennial forbs, other perennial grasses, Nevada bluegrass, sedge

Typical profile:

Layer 1—0 to 4 inches; ashy loam

Layer 2—4 to 24 inches; ashy clay loam

Layer 3—24 to 32 inches; ashy clay loam

Layer 4—32 to 63 inches; stratified ashy loam to ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 13 inches

Present flooding: Frequent

Present ponding: None

Water table: Present

Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 4e

Ecological site: R023XY013NV—Dry meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Bidwell and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, bluegrass, antelope bitterbrush, big sagebrush

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Hussa and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Dangvar and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Summits of lake terraces

Typical vegetation: Basin wildrye, black greasewood, Nevada bluegrass, inland saltgrass

Ecological site: R023XY010NV—Saline bottom

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

335—Cavin-Ashtre-Hutchley association

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 5,940 to 7,970
 Precipitation: 12 to 18 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 55 to 100 days

Composition

Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—40 percent
 Ashtre very gravelly ashy loam, 4 to 15 percent slopes—30 percent
 Hutchley very cobbly sandy loam, 4 to 30 percent slopes—15 percent
 Nutzan very gravelly ashy sandy loam, 4 to 15 percent slopes—6 percent
 Zorromount gravelly ashy mucky fine sandy loam, 4 to 30 percent slopes—5 percent
 Bitner very gravelly ashy sandy loam, 4 to 15 percent slopes—2 percent
 Cavin very gravelly ashy sandy loam, 30 to 50 percent slopes—2 percent

Component Description

Cavin and similar soils

Landform: East to west aspects on shoulders of mountains
 Slope: 8 to 30 percent, east to west aspects
 Parent material: Volcanic ash and colluvium derived from volcanic rock
 Typical vegetation: Idaho fescue, needlegrass, mountain big sagebrush, Cusick's bluegrass, other perennial forbs, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 4 percent stones
 Layer 1—0 to 2 inches; very gravelly ashy sandy loam
 Layer 2—2 to 11 inches; very gravelly ashy sandy loam
 Layer 3—11 to 18 inches; very gravelly ashy sandy loam
 Layer 4—18 to 24 inches; very gravelly ashy sandy loam
 Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description

Ashtre and similar soils

Landform: Backslopes of ash flows
 Slope: 4 to 15 percent
 Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Other perennial grasses, needlegrass, Idaho fescue, bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam
 Layer 2—2 to 11 inches; ashy loam
 Layer 3—11 to 26 inches; ashy clay loam
 Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Component Description

Hutchley and similar soils

Landform: Summits of mountains

Slope: 4 to 30 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Mountain big sagebrush, needlegrass, antelope bitterbrush, Idaho fescue, basin wildrye, other perennial forbs, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very cobbly sandy loam

Layer 2—6 to 14 inches; very gravelly clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nutzan and similar soils

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Summits of mountains

Typical vegetation: Other shrubs, antelope bitterbrush, mountain big sagebrush, other perennial forbs, other perennial grasses, Idaho fescue, needlegrass

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Zorromount and similar soils

Composition: 0 to 5 percent

Slope: 4 to 30 percent, west to east aspects

Landform: West to east aspects on backslopes of mountains

Typical vegetation: Needlegrass, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curlleaf mountainmahogany

Ecological site: R023XY026NV—Mahogany Savanna

Bitner and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Shoulders of mountains

Typical vegetation: Thurber's needlegrass, Idaho fescue, bluebunch wheatgrass, big sagebrush, antelope bitterbrush

Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Cavin and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent, east to west aspects

Landform: East to west aspects on shoulders of mountains

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, other perennial forbs, Idaho fescue, needlegrass, Cusick's bluegrass

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

336—Cavin-Cowbell-Rubble land association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,260 to 7,740

Precipitation: 14 to 18 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Cavin very gravelly ashy sandy loam, 30 to 50 percent slopes—60 percent
 Cowbell extremely cobbly ashy mucky sandy loam, 15 to 30 percent slopes—15 percent
 Rubble land, 30 to 75 percent slopes—15 percent
 Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—5 percent
 Hashwoods ashy fine sandy loam, 15 to 30 percent slopes—2 percent
 Snag very stony ashy sandy loam, 8 to 30 percent slopes—2 percent
 Nutzan very gravelly ashy sandy loam, 8 to 30 percent slopes—1 percent

Component Description

Cavin and similar soils

Landform: East to west aspects on shoulders of mountains
 Slope: 30 to 50 percent, east to west aspects
 Parent material: Volcanic ash and colluvium derived from volcanic rock
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, other perennial forbs, Cusick's bluegrass, Idaho fescue, needlegrass

Typical profile:

Surface rock fragments: About 4 percent stones
 Layer 1—0 to 2 inches; very gravelly ashy sandy loam
 Layer 2—2 to 11 inches; very gravelly ashy sandy loam
 Layer 3—11 to 18 inches; very gravelly ashy sandy loam
 Layer 4—18 to 24 inches; very gravelly ashy sandy loam
 Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description

Cowbell and similar soils

Landform: East to west aspects on backslopes of mountains
 Slope: 15 to 30 percent, east to west aspects
 Parent material: Volcanic ash and colluvium derived from volcanic rocks
 Typical vegetation: Curleaf mountainmahogany, needlegrass, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 8 percent stones
 Layer 1—0 to 3 inches; extremely cobbly ashy mucky sandy loam
 Layer 2—3 to 9 inches; extremely cobbly ashy loam
 Layer 3—9 to 40 inches; very cobbly ashy sandy clay loam
 Layer 4—40 to 60 inches; very gravelly ashy sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 10 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY026NV—Mahogany Savanna

Component Description

Rubble land

Landform: Backslopes of escarpments
 Slope: 30 to 75 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Brownsbowl and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 15 percent, northeast to northwest aspects
 Landform: Northeast to northwest aspects on mountains
 Typical vegetation: Needlegrass, mountain brome, melic, other perennial forbs, other shrubs, mountain big sagebrush, Idaho fescue
 Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Hashwoods and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent, northwest to northeast aspects
 Landform: Northwest to northeast aspects on mountains
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—snowberry, other shrubs, quaking aspen, other perennial forbs, other perennial grasses, Nevada bluegrass, slender wheatgrass, mountain brome
 Ecological site: F023XY028NV

Snag and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent
 Landform: Ground moraines
 Typical vegetation: Mountain brome, Idaho fescue, basin wildrye, other perennial grasses, needlegrass, mountain big sagebrush, other shrubs, snowberry, other perennial forbs, bluegrass
 Ecological site: R023XY019NV—Loamy 16+ P.Z.

Nutzan and similar soils

Composition: 0 to 1 percent
 Slope: 8 to 30 percent
 Landform: Summits of mountains
 Typical vegetation: Other shrubs, antelope bitterbrush, mountain big sagebrush, needlegrass, Idaho fescue, other perennial grasses, other perennial forbs
 Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

337—Cavin-Hutchley association

Map Unit Setting

MLRA: 23

Landscape: Mountains
 Elevation: 6,020 to 8,200
 Precipitation: 12 to 18 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 55 to 85 days

Composition

Cavin very gravelly ashy sandy loam, 30 to 50 percent slopes—60 percent
 Hutchley very cobbly sandy loam, 15 to 50 percent slopes—25 percent
 Ashtre very gravelly ashy loam, 30 to 50 percent slopes—5 percent
 Zorromount gravelly ashy mucky fine sandy loam, 15 to 50 percent slopes—4 percent
 Dosie very gravelly loam, 30 to 50 percent slopes—3 percent
 Softscrabble very stony loam, 30 to 50 percent slopes—3 percent

Component Description

Cavin and similar soils

Landform: East to west aspects on shoulders of mountains
 Slope: 30 to 50 percent, east to west aspects
 Parent material: Volcanic ash and colluvium derived from volcanic rock
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, other perennial forbs, Cusick's bluegrass, Idaho fescue, needlegrass

Typical profile:

Surface rock fragments: About 4 percent stones
 Layer 1—0 to 2 inches; very gravelly ashy sandy loam
 Layer 2—2 to 11 inches; very gravelly ashy sandy loam
 Layer 3—11 to 18 inches; very gravelly ashy sandy loam
 Layer 4—18 to 24 inches; very gravelly ashy sandy loam
 Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description**Hutchley and similar soils**

Landform: Shoulders of mountains

Slope: 15 to 50 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, basin wildrye, Idaho fescue, mountain big sagebrush, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very cobbly sandy loam

Layer 2—6 to 14 inches; very gravelly clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ashtre and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of ash flows

Typical vegetation: Other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big

sagebrush, other shrubs, bluegrass, needlegrass, Idaho fescue

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Zorromount and similar soils

Composition: 0 to 4 percent

Slope: 15 to 50 percent, west to east aspects

Landform: West to east aspects on backslopes of mountains

Typical vegetation: Curlleaf mountainmahogany, needlegrass, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush

Ecological site: R023XY026NV—Mahogany Savanna

Dosie and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent, west to east aspects

Landform: West to east aspects on backslopes of mountains

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye, needlegrass

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Softscrabble and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent, west to east aspects

Landform: West to east aspects on backslopes of mountains

Typical vegetation: Other perennial forbs, mountain big sagebrush, antelope bitterbrush, needlegrass, basin wildrye, bluebunch wheatgrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

338—Cavin-Nutzan-Snag association**Map Unit Setting**

MLRA: 23

Landscape: Mountains

Elevation: 5,590 to 7,340

Precipitation: 12 to 18 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—40 percent

Nutzan very gravelly ashy sandy loam, 8 to 30 percent slopes—30 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—20 percent

Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—5 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—3 percent

Hashwoods ashy fine sandy loam, 4 to 15 percent slopes—2 percent

Component Description

Cavin and similar soils

Landform: East to west aspects on shoulders of mountains

Slope: 8 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rock

Typical vegetation: Mountain big sagebrush, needlegrass, Idaho fescue, Cusick's bluegrass, other perennial forbs, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 2 inches; very gravelly ashy sandy loam

Layer 2—2 to 11 inches; very gravelly ashy sandy loam

Layer 3—11 to 18 inches; very gravelly ashy sandy loam

Layer 4—18 to 24 inches; very gravelly ashy sandy loam

Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description

Nutzan and similar soils

Landform: Summits of mountains

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Other shrubs, needlegrass, Idaho fescue, other perennial grasses, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 10 inches; very gravelly ashy sandy loam

Layer 2—10 to 17 inches; gravelly ashy sandy loam

Layer 3—17 to 28 inches; very gravelly ashy sandy loam

Layer 4—28 to 36 inches; extremely gravelly ashy coarse sandy loam

Layer 5—36 to 46 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Component Description

Snag and similar soils

Landform: Ground moraines

Slope: 2 to 8 percent

Parent material: Volcanic ash and till derived from volcanic rock

Typical vegetation: Snowberry, other shrubs, bluegrass, other perennial grasses, mountain big sagebrush, other perennial forbs, basin wildrye, Idaho fescue, mountain brome, needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 4 inches; very stony ashy sandy loam

Layer 2—4 to 30 inches; extremely stony ashy sandy loam

Layer 3—30 to 62 inches; very cobbly ashy sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderate)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY019NV—Loamy 16+ P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Brownsbowl and similar soils

Composition: 0 to 5 percent

Slope: 8 to 15 percent, northeast to northwest aspects

Landform: Northeast to northwest aspects on mountains

Typical vegetation: Idaho fescue, mountain big sagebrush, other shrubs, needlegrass, mountain

brome, melic, other perennial forbs

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Cowbell and similar soils

Composition: 0 to 3 percent

Slope: 4 to 30 percent, east to west aspects

Landform: East to west aspects on backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, Idaho fescue, needlegrass, curlleaf mountainmahogany, mountain big sagebrush, Cusick's bluegrass

Ecological site: R023XY026NV—Mahogany Savanna

Hashwoods and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on mountains

Typical vegetation: Forest canopy—quaking aspen

Forest understory—other perennial grasses, slender wheatgrass, quaking aspen, other perennial forbs, other shrubs, snowberry, Nevada bluegrass, mountain brome

Ecological site: F023XY028NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

339—Cavin-Nutzan-Tusune association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,660 to 6,910

Precipitation: 12 to 18 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—40 percent

Nutzan very gravelly ashy sandy loam, 4 to 30 percent slopes—35 percent

Tusune gravelly ashy loam, 30 to 50 percent slopes—15 percent

Zorromount gravelly ashy mucky fine sandy loam, 8 to 30 percent slopes—5 percent

Rock outcrop—3 percent

Ashtre very gravelly ashy loam, 8 to 30 percent slopes—2 percent

Component Description

Cavin and similar soils

Landform: East to west aspects on shoulders of mountains

Slope: 8 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rock

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, other perennial forbs, Cusick's bluegrass, Idaho fescue, needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 2 inches; very gravelly ashy sandy loam

Layer 2—2 to 11 inches; very gravelly ashy sandy loam

Layer 3—11 to 18 inches; very gravelly ashy sandy loam

Layer 4—18 to 24 inches; very gravelly ashy sandy loam

Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description

Nutzan and similar soils

Landform: Summits of mountains
 Slope: 4 to 30 percent
 Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Mountain big sagebrush, other perennial forbs, other perennial grasses, Idaho fescue, needlegrass, antelope bitterbrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 10 inches; very gravelly ashy sandy loam
 Layer 2—10 to 17 inches; gravelly ashy sandy loam
 Layer 3—17 to 28 inches; very gravelly ashy sandy loam
 Layer 4—28 to 36 inches; extremely gravelly ashy coarse sandy loam
 Layer 5—36 to 46 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Component Description

Tusune and similar soils

Landform: Footslopes of mountains
 Slope: 30 to 50 percent
 Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Idaho fescue, Cusick's bluegrass, other shrubs, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 2 percent stones, 2 percent cobbles, 28 percent gravel
 Layer 1—0 to 2 inches; gravelly ashy loam
 Layer 2—2 to 10 inches; gravelly ashy loam
 Layer 3—10 to 38 inches; very gravelly ashy clay loam
 Layer 4—38 to 48 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY054NV—Steep north slope

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Zorromount and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 30 percent, west to east aspects
 Landform: West to east aspects on backslopes of mountains
 Typical vegetation: Curlleaf mountainmahogany, mountain big sagebrush, Cusick's bluegrass, bluebunch wheatgrass, needlegrass, Idaho fescue
 Ecological site: R023XY026NV—Mahogany Savanna

Rock outcrop

Composition: 0 to 3 percent
 Landform: Escarpments

Ashtre and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent

Landform: Backslopes of ash flows
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue, needlegrass, other perennial forbs, other shrubs
 Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

340—Chalco-Pickup association

Map Unit Setting

MLRA: 23
 Landscape: Hills
 Elevation: 5,190 to 6,360
 Precipitation: 10 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 60 to 120 days

Composition

Chalco very gravelly clay loam, 30 to 50 percent slopes—35 percent
 Chalco very gravelly loam, 15 to 50 percent slopes—30 percent
 Pickup very stony loam, 30 to 50 percent slopes—20 percent
 Devada very stony loam, 8 to 30 percent slopes—6 percent
 Softscrabble very stony loam, 15 to 50 percent slopes—5 percent
 Rock outcrop—4 percent

Component Description

Chalco and similar soils

Landform: Backslopes of hills
 Slope: 30 to 50 percent
 Parent material: Residuum and colluvium derived from lake-laid tuff
 Typical vegetation: Other shrubs, green ephedra, Wyoming big sagebrush, desert needlegrass, bluebunch wheatgrass, purple sage

Typical profile:

Layer 1—0 to 3 inches; very gravelly clay loam
 Layer 2—3 to 15 inches; clay
 Layer 3—15 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY030NV—South slope 8-12 P.Z.

Component Description

Chalco and similar soils

Landform: Hills
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from lake-laid tuff
 Typical vegetation: Bottlebrush squirreltail, other shrubs, low sagebrush, other perennial forbs, other perennial grasses, Thurber's needlegrass, Indian ricegrass, Sandberg bluegrass

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam
 Layer 2—3 to 15 inches; clay
 Layer 3—15 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R026XY025NV—Claypan 8-10 P.Z.

Component Description

Pickup and similar soils

Landform: Hills
 Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 13 percent stones, 10 percent cobbles, 29 percent gravel, 7 percent fine gravel

Layer 1—0 to 8 inches; very stony loam

Layer 2—8 to 34 inches; very gravelly clay

Layer 3—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Summits of rock pediments

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, bluegrass, low sagebrush, Thurber's needlegrass

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: Mountain big sagebrush, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, basin wildrye, needlegrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Rock outcrop

Composition: 0 to 4 percent

Landform: Hills

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

341—Chalco-Rock outcrop-Pickup association

Map Unit Setting

MLRA: 23

Landscape: Hills

Elevation: 5,330 to 6,490

Precipitation: 10 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 60 to 120 days

Composition

Chalco very gravelly loam, 8 to 30 percent slopes—40 percent

Rock outcrop, 8 to 50 percent slopes—25 percent

Pickup very stony loam, 30 to 50 percent slopes—20 percent

Wylo very stony loam, 8 to 15 percent slopes—7 percent

Devada very cobbly loam, 8 to 15 percent slopes—5 percent

Saraph very gravelly ashy sandy loam, 8 to 15 percent slopes—3 percent

Component Description

Chalco and similar soils

Landform: Hills

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from lake-laid tuff

Typical vegetation: Lahontan sagebrush, other perennial forbs, other shrubs, Thurber's needlegrass, Webber needlegrass, Indian ricegrass

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam

Layer 2—3 to 15 inches; clay

Layer 3—15 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Component Description

Rock outcrop

Landform: Hills
 Slope: 8 to 50 percent

Component Description

Pickup and similar soils

Landform: Hills
 Slope: 30 to 50 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Lahontan sagebrush, other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1—0 to 8 inches; very stony loam
 Layer 2—8 to 34 inches; very gravelly clay
 Layer 3—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Wylo and similar soils

Composition: 0 to 7 percent
 Slope: 8 to 15 percent, southeast to southwest aspects
 Landform: Southeast to southwest aspects on shoulders of hills
 Typical vegetation: Bluegrass, bluebunch wheatgrass, Thurber's needlegrass, other perennial forbs, Lahontan sagebrush
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Devada and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 15 percent
 Landform: Summits of hills
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, other perennial forbs, bluegrass, Thurber's needlegrass
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Saraph and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 15 percent
 Landform: Summits of rock pediments
 Typical vegetation: Indian ricegrass, Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

342—Chalco-Saraph-Tuffo association

Map Unit Setting

MLRA: 23
 Landscape: Hills
 Elevation: 4,640 to 6,160
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 60 to 120 days

Composition

Chalco very gravelly loam, 15 to 50 percent slopes—40 percent
 Saraph very gravelly ashy sandy loam, 15 to 50 percent slopes—30 percent
 Tufo very gravelly ashy sandy loam, 15 to 50 percent slopes—15 percent
 Badland variable, 30 to 75 percent slopes—8 percent
 Hangrock very gravelly ashy loam, 4 to 8 percent slopes—6 percent
 Skedaddle very gravelly sandy loam, 15 to 50 percent slopes—1 percent

Component Description**Chalco and similar soils**

Landform: Hills
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from lake-laid tuff
 Typical vegetation: Webber needlegrass, Lahontan sagebrush, other perennial forbs, other shrubs, Thurber's needlegrass, Indian ricegrass

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam
 Layer 2—3 to 15 inches; clay
 Layer 3—15 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Component Description**Saraph and similar soils**

Landform: Summits of hills
 Slope: 15 to 50 percent
 Parent material: Residuum weathered from tuff

Typical vegetation: Other shrubs, other perennial grasses, Wyoming big sagebrush, other perennial forbs, Indian ricegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam
 Layer 2—4 to 9 inches; ashy sandy loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description**Tufo and similar soils**

Landform: Backslopes of ash flows
 Slope: 15 to 50 percent
 Parent material: Residuum derived from tuffaceous rocks
 Typical vegetation: Bottlebrush squirreltail, other perennial forbs, other shrubs, Wyoming big sagebrush, other perennial grasses, Indian ricegrass

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
 Layer 2—1 to 8 inches; gravelly ashy sandy loam
 Layer 3—8 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 4 to 14 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.1 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Badland

Composition: 0 to 8 percent
 Slope: 30 to 75 percent
 Landform: Hills

Hangrock and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Skedaddle and similar soils

Composition: 0 to 1 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of hills
 Typical vegetation: Other shrubs, Wyoming big sagebrush, other perennial forbs, other perennial grasses, bottlebrush squirreltail, Indian ricegrass
 Ecological site: R023XY088NV—Chalky knoll

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

343—Chalco-Verdico-Skedaddle association

Map Unit Setting

MLRA: 23
 Landscape: Hills
 Elevation: 5,200 to 5,610
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 60 to 120 days

Composition

Chalco very gravelly loam, 4 to 15 percent slopes—50 percent
 Verdico cobbly sandy loam, 4 to 15 percent slopes—25 percent
 Skedaddle very gravelly sandy loam, 4 to 15 percent slopes—15 percent
 Wylo very stony loam, 4 to 15 percent slopes—4 percent
 Pickup very stony loam, 15 to 30 percent slopes—3 percent
 Reywat very stony loam, 15 to 30 percent slopes—3 percent

Component Description

Chalco and similar soils

Landform: Summits of hills
 Slope: 4 to 15 percent
 Parent material: Residuum and colluvium derived from lake-laid tuff
 Typical vegetation: Other perennial forbs, Webber needlegrass, Thurber's needlegrass, Lahontan sagebrush, Indian ricegrass, other shrubs

Typical profile:

Surface rock fragments: About 3 percent cobbles, 39 percent gravel, 7 percent fine gravel
 Layer 1—0 to 3 inches; very gravelly loam
 Layer 2—3 to 15 inches; clay
 Layer 3—15 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Component Description

Verdico and similar soils

Landform: Shoulders of hills

Slope: 4 to 15 percent

Parent material: Colluvium and/or residuum weathered from tuff

Typical vegetation: Other perennial forbs, Lahontan sagebrush, ephedra, other shrubs, spiny hopsage, Sandberg bluegrass, other perennial grasses, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail

Typical profile:

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 10 percent gravel

Layer 1—0 to 3 inches; cobbly sandy loam

Layer 2—3 to 17 inches; clay

Layer 3—17 to 22 inches; gravelly clay

Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY047NV—Gravelly clay 8-10 P.Z.

Component Description

Skedaddle and similar soils

Landform: Hills

Slope: 4 to 15 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Other perennial grasses, other perennial forbs, bottlebrush squirreltail, Indian ricegrass, Wyoming big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 10 inches; very gravelly loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 4 to 12 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Wylo and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on shoulders of hills

Typical vegetation: Lahontan sagebrush, other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Pickup and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Hills

Typical vegetation: Lahontan sagebrush, other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Reywat and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent, east to west aspects

Landform: East to west aspects on backslopes of hills

Typical vegetation: Thurber's needlegrass, basin wildrye, antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
"Engineering" and "Soil Properties" sections

344—Coppersmith-Bareranch association

Map Unit Setting

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,600 to 5,480

Precipitation: 10 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Coppersmith ashy sandy loam, 2 to 8 percent slopes—50 percent

Bareranch very stony ashy sandy loam, 8 to 30 percent slopes—35 percent

Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—5 percent

Saraph very cobbly ashy sandy loam, 8 to 15 percent slopes—4 percent

Bucklake very stony loam, 15 to 30 percent slopes—3 percent

Devada very stony loam, 4 to 15 percent slopes—3 percent

Component Description

Coppersmith and similar soils

Landform: Beach terraces

Slope: 2 to 8 percent

Parent material: Volcanic ash, alluvium derived from volcanic rock and eolian deposits

Typical vegetation: Other perennial forbs, other shrubs, bluebunch wheatgrass, Thurber's needlegrass, big sagebrush, squaw apple

Typical profile:

Layer 1—0 to 5 inches; ashy sandy loam

Layer 2—5 to 16 inches; ashy sandy clay loam

Layer 3—16 to 39 inches; ashy fine sandy loam

Layer 4—39 to 60 inches; ashy loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3c

Nonirrigated land capability: 6c

Ecological site: R023XY098NV—Deep loamy 10-12 P.Z.

Component Description

Bareranch and similar soils

Landform: West to east aspects on beach terraces

Slope: 8 to 30 percent, west to east aspects

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, big sagebrush

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 9 inches; very stony ashy sandy loam

Layer 2—9 to 29 inches; very cobbly ashy sandy loam

Layer 3—29 to 42 inches; very cobbly ashy sandy loam

Layer 4—42 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nevadash and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent
 Landform: Fan aprons, lake plains
 Typical vegetation: Thickspike wheatgrass, basin wildrye, big sagebrush, other perennial forbs, other shrubs, spiny hopsage
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Saraph and similar soils

Composition: 0 to 4 percent
 Slope: 8 to 15 percent
 Landform: Summits of rock pediments
 Typical vegetation: Other perennial forbs, Wyoming big sagebrush, other shrubs, other perennial grasses, Indian ricegrass, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Bucklake and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Hills
 Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Devada and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Backslopes of hills
 Typical vegetation: Thurber's needlegrass, bluegrass, low sagebrush, bluebunch wheatgrass, other perennial forbs
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

345—Cormol-Bucklake-Devada association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,820 to 7,000
 Precipitation: 10 to 13 inches
 Air temperature: 44 to 50 degrees Fahrenheit

Frost-free period: 50 to 100 days

Composition

Cormol very cobbly ashy loam, 15 to 50 percent slopes—50 percent
 Bucklake very cobbly loam, 30 to 50 percent slopes—20 percent
 Devada very cobbly loam, 15 to 30 percent slopes—15 percent
 Pickup very stony loam, 30 to 50 percent slopes—6 percent
 Nosavvy very cobbly ashy loam, 30 to 50 percent slopes—4 percent
 Old Camp very stony loam, 8 to 30 percent slopes—3 percent
 Tuffo very gravelly ashy sandy loam, 30 to 50 percent slopes—2 percent

Component Description

Cormol and similar soils

Landform: East to southwest aspects on backslopes of plateaus
 Slope: 15 to 50 percent, east to southwest aspects
 Parent material: Volcanic ash and residuum weathered from volcanic rock
 Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1—0 to 3 inches; very cobbly ashy loam
 Layer 2—3 to 7 inches; ashy loam
 Layer 3—7 to 11 inches; ashy sandy clay loam
 Layer 4—11 to 18 inches; very paragravelly ashy sandy clay loam
 Layer 5—18 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description**Bucklake and similar soils**

Landform: Plateaus

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, Wyoming big sagebrush, basin wildrye, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones, 21 percent cobbles, 12 percent gravel, 2 percent fine gravel

Layer 1—0 to 8 inches; very cobbly loam

Layer 2—8 to 12 inches; gravelly clay loam

Layer 3—12 to 24 inches; gravelly clay

Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description**Devada and similar soils**

Landform: Summits of plateaus

Slope: 15 to 30 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Bluegrass, Thurber's needlegrass, low sagebrush, bluebunch wheatgrass, other perennial forbs

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 6 inches; very cobbly loam

Layer 2—6 to 17 inches; clay

Layer 3—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Pickup and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 50 percent

Landform: Plateaus

Typical vegetation: Other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass, Lahontan sagebrush

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Nosavvy and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Thurber's needlegrass, Webber needlegrass, other perennial forbs, Lahontan sagebrush, Indian ricegrass, other shrubs

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Old Camp and similar soils

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Summits of plateaus

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Tuffo and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Backslopes of ash flows

Typical vegetation: Other shrubs, Wyoming big sagebrush, other perennial forbs, other perennial grasses, bottlebrush squirreltail, Indian ricegrass

Ecological site: R023XY088NV—Chalky knoll

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

346—Couch ashy fine sandy loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 4,460 to 6,030

Precipitation: 8 to 10 inches

Air temperature: 45 to 49 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Couch ashy fine sandy loam, 0 to 2 percent slopes—90 percent

Pegler ashy fine sandy loam, 0 to 2 percent slopes—4 percent

Jesayno ashy silt loam, 0 to 2 percent slopes—2 percent

Valmy fine sandy loam, 0 to 2 percent slopes—2 percent

Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—2 percent

Component Description**Couch and similar soils**

Landform: Summits of basin-floor remnants

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Black greasewood, basin wildrye, other perennial grasses, bottlebrush squirreltail, other perennial forbs, big sagebrush, spiny hopsage, other shrubs

Typical profile:

Layer 1—0 to 1 inches; ashy fine sandy loam

Layer 2—1 to 6 inches; clay

Layer 3—6 to 13 inches; clay loam

Layer 4—13 to 22 inches; clay loam

Layer 3—22 to 60 inches; stratified ashy sandy loam to ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Pegler and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Rock pediments

Typical vegetation: Indian ricegrass, Wyoming big sagebrush, spiny hopsage, other shrubs, Sandberg bluegrass, Thurber's needlegrass, bottlebrush squirreltail

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Jesayno and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Other perennial forbs, western wheatgrass, Nevada bluegrass, basin big sagebrush, basin wildrye

Ecological site: R023XY005NV—Dry floodplain

Valmy and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Bottlebrush squirreltail, basin wildrye, other perennial grasses, other perennial forbs, other shrubs, big sagebrush, spiny hopsage, black greasewood

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Crutcher and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Black greasewood, Nevada bluegrass, basin wildrye, inland saltgrass

Ecological site: R023XY010NV—Saline bottom

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

347—Couch ashy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,450 to 4,540

Precipitation: 8 to 10 inches

Air temperature: 45 to 49 degrees Fahrenheit

Frost-free period: —

Composition

Couch ashy fine sandy loam, 0 to 2 percent slopes—85 percent

Hovey silty clay loam, 0 to 2 percent slopes—5 percent

Bidwell ashy loam, 0 to 2 percent slopes—5 percent

Lolak silty clay, 0 to 2 percent slopes—3 percent

Hussa ashy clay loam, 0 to 2 percent slopes—2 percent

Component Description

Couch and similar soils

Landform: Summits of basin-floor remnants

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Inland saltgrass, Nevada bluegrass, basin wildrye, other perennial grasses, Lemmon's alkaligrass

Typical profile:

Layer 1—0 to 1 inches; ashy fine sandy loam

Layer 2—1 to 22 inches; clay

Layer 3—22 to 60 inches; stratified ashy sandy loam to ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY002NV—Saline meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hovey and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Bidwell and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Antelope bitterbrush, other shrubs, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass, big sagebrush

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Lolak and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, black greasewood

Ecological site: R023XY010NV—Saline bottom

Hussa and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

348—Couch ashy loam, clay substratum, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,450 to 4,710
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Couch ashy loam, 0 to 2 percent slopes—85 percent
 Couch ashy loam, 0 to 2 percent slopes—5 percent
 Hovey silty clay loam, 0 to 2 percent slopes—5 percent
 Lolak silty clay, 0 to 2 percent slopes—4 percent
 Husa ashy clay loam, 0 to 2 percent slopes—1 percent

Component Description

Couch and similar soils

Landform: Summits of basin-floor remnants
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, other perennial grasses, Lemmon's alkaligrass

Typical profile:

Layer 1—0 to 1 inches; ashy loam
 Layer 2—1 to 22 inches; clay
 Layer 3—22 to 40 inches; stratified ashy sandy loam to ashy silt loam
 Layer 4—40 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY002NV—Saline meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Couch and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Summits of basin-floor remnants
 Typical vegetation: Other perennial grasses, Lemmon's alkaligrass, inland saltgrass, basin wildrye, Nevada bluegrass
 Ecological site: R023XY002NV—Saline meadow

Hovey and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Lolak and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Inland saltgrass, Nevada bluegrass, black greasewood, basin wildrye
 Ecological site: R023XY010NV—Saline bottom

Husa and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

349—Couch-Jesayno association**Map Unit Setting**

MLRA: 23
 Landscape: Basin
 Elevation: 4,460 to 5,600
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Couch ashy silt loam, 0 to 2 percent slopes—50 percent
 Jesayno ashy silt loam, 0 to 2 percent slopes—35 percent
 Macnot gravelly ashy sandy loam, 0 to 4 percent slopes—8 percent
 Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—7 percent

Component Description**Couch and similar soils**

Landform: Summits of basin-floor remnants
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Basin wildrye, other perennial forbs, other perennial grasses, spiny hopsage, bottlebrush squirreltail, big sagebrush, other shrubs, black greasewood

Typical profile:

Layer 1—0 to 1 inches; ashy silt loam
 Layer 2—1 to 6 inches; clay
 Layer 3—6 to 13 inches; clay loam
 Layer 4—13 to 22 inches; clay loam
 Layer 3—22 to 60 inches; stratified ashy sandy loam to ashy silt loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 10 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Component Description**Jesayno and similar soils**

Landform: Inset fans
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and alluvium over lacustrine deposits
 Typical vegetation: Basin wildrye, basin big sagebrush, other perennial forbs, western wheatgrass, Nevada bluegrass

Typical profile:

Layer 1—0 to 12 inches; ashy silt loam
 Layer 2—12 to 24 inches; ashy silt loam
 Layer 3—24 to 41 inches; ashy silt loam
 Layer 4—41 to 60 inches; ashy silt loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 11 inches
 Present flooding: Occasional
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R023XY005NV—Dry floodplain

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions**Macnot and similar soils**

Composition: 0 to 8 percent
 Slope: 0 to 4 percent
 Landform: Alluvial fans
 Typical vegetation: Spiny hopsage, thickspike wheatgrass, basin wildrye, big sagebrush, other perennial forbs, other shrubs
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Nevadash and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 4 percent
 Landform: Fan aprons, lake plains

Typical vegetation: Spiny hopsage, other shrubs, other perennial forbs, big sagebrush, basin wildrye, thickspike wheatgrass

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

350—Couch-Nevadash association

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,500 to 5,070

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Couch ashy fine sandy loam, 2 to 4 percent slopes—50 percent

Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—40 percent

Jesayno ashy silt loam, 0 to 2 percent slopes—5 percent

Davey loamy fine sand, 0 to 2 percent slopes—3 percent

Valmy fine sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Couch and similar soils

Landform: Summits of basin-floor remnants

Slope: 2 to 4 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Bottlebrush squirreltail, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, spiny hopsage, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 1 inches; ashy fine sandy loam

Layer 2—1 to 6 inches; clay

Layer 3—6 to 13 inches; clay loam

Layer 4—13 to 22 inches; clay loam

Layer 3—22 to 60 inches; stratified ashy sandy loam to ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Component Description

Nevadash and similar soils

Landform: Fan aprons, lake plains

Slope: 2 to 4 percent

Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock

Typical vegetation: Other perennial forbs, other shrubs, spiny hopsage, big sagebrush, basin wildrye, thickspike wheatgrass

Typical profile:

Layer 1—0 to 2 inches; gravelly ashy sandy loam

Layer 2—2 to 5 inches; ashy sandy clay loam

Layer 3—5 to 17 inches; ashy sandy clay loam

Layer 4—17 to 28 inches; ashy fine sandy loam

Layer 5—28 to 44 inches; ashy fine sandy loam

Layer 6—44 to 68 inches; gravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderate)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6c

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Jesayno and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Nevada bluegrass, basin wildrye, basin big sagebrush, western wheatgrass, other perennial forbs

Ecological site: R023XY005NV—Dry floodplain

Davey and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Sand sheets

Typical vegetation: Basin wildrye, spiny hopsage, other shrubs, black greasewood, big sagebrush, other perennial forbs, other perennial grasses, bottlebrush squirreltail

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Valmy and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Fan skirts

Typical vegetation: Other perennial grasses, basin wildrye, spiny hopsage, big sagebrush, other perennial forbs, black greasewood, bottlebrush squirreltail, other shrubs

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

351—Cowbell-Brownsbowl association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,800 to 7,420

Precipitation: 12 to 18 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—60 percent

Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—30 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—5 percent

Hutchley very cobbly sandy loam, 4 to 30 percent slopes—3 percent

Hashwoods ashy fine sandy loam, 4 to 15 percent slopes—2 percent

Component Description

Cowbell and similar soils

Landform: East to west aspects on backslopes of mountains

Slope: 4 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curleaf mountainmahogany

Typical profile:

Surface rock fragments: About 8 percent stones

Layer 1—0 to 3 inches; extremely cobbly ashy mucky sandy loam

Layer 2—3 to 9 inches; extremely cobbly ashy loam

Layer 3—9 to 40 inches; very cobbly ashy sandy clay loam

Layer 4—40 to 60 inches; very gravelly ashy sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY026NV—Mahogany Savanna

Component Description

Brownsbowl and similar soils

Landform: Northeast to northwest aspects on mountains

Slope: 8 to 15 percent, northeast to northwest aspects

Parent material: Volcanic ash and colluvium derived from andesite

Typical vegetation: Mountain brome, melic, needlegrass, other perennial forbs, other shrubs, Idaho fescue, mountain big sagebrush

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam
 Layer 2—10 to 28 inches; gravelly ashy sandy loam
 Layer 3—28 to 34 inches; cobbly ashy sandy loam
 Layer 4—34 to 41 inches; very cobbly ashy sandy loam
 Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
 Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Snag and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Ground moraines
 Typical vegetation: Needlegrass, mountain brome, Idaho fescue, basin wildrye, bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs, snowberry
 Ecological site: R023XY019NV—Loamy 16+ P.Z.

Hutchley and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 30 percent
 Landform: Summits of mountains
 Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, basin wildrye, other

perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R023XY008NV—Mountain ridge

Hashwoods and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent, northwest to northeast aspects
 Landform: Northwest to northeast aspects on mountains
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—mountain brome, slender wheatgrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs, snowberry, quaking aspen
 Ecological site: F023XY028NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

352—Crazybird-Warnermount association

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 4,480 to 6,720
 Precipitation: 16 to 30 inches
 Air temperature: 41 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Crazybird very gravelly ashy sandy loam, 30 to 50 percent slopes—35 percent
 Warnermount gravelly ashy loam, 15 to 50 percent slopes—30 percent
 Crazybird very gravelly ashy sandy loam, 15 to 50 percent slopes—20 percent
 Welltomas very gravelly ashy loam, cool, 4 to 30 percent slopes—4 percent
 Lithic Argixerolls very gravelly ashy loam, cool, 15 to 50 percent slopes—3 percent
 Dawgbuffer very gravelly ashy sandy loam, 8 to 30 percent slopes—2 percent
 Hartner very gravelly ashy sandy loam, 30 to 75 percent slopes—2 percent
 Histic Cryaquolls muck, cool, 4 to 15 percent slopes—1 percent
 Lyonman gravelly ashy sandy loam, 30 to 50 percent slopes—1 percent

Rock outcrop, 30 to 75 percent slopes—1 percent
Vitrandic Haploxerolls extremely cobbly ashy loam, cool,
2 to 8 percent slopes—1 percent

Component Description

Crazybird and similar soils

Landform: Mountain slopes

Slope: 30 to 50 percent

Parent material: Volcanic ash, colluvium derived from
pyroclastic rock and residuum weathered from
pyroclastic rock

Typical vegetation: Bluegrass, needlegrass, other trees,
other shrubs, bluebunch wheatgrass, other perennial
forbs, mountain big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 35 percent gravel, 10
percent cobbles, 1 percent stones

Layer 1—0 to 3 inches; very gravelly ashy sandy loam

Layer 2—3 to 15 inches; very gravelly ashy loam

Layer 3—15 to 25 inches; bedrock

See “Chemical Soil Properties” table and the “Physical
Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 14 to 20
inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE205CA—South slope

Component Description

Warnermount warm and similar soils

Landform: Mountain slopes

Slope: 15 to 50 percent

Parent material: Volcanic ash and colluvium derived
from volcanic rock

Typical vegetation: Antelope bitterbrush, bluebunch
wheatgrass, other perennial forbs, Nevada bluegrass,
Idaho fescue, mountain big sagebrush

Typical profile:

Surface rock fragments: About 25 percent gravel, 5
percent cobbles, 5 percent stones

Layer 1—0 to 2 inches; gravelly ashy loam

Layer 2—2 to 10 inches; very stony ashy loam

Layer 3—10 to 33 inches; extremely cobbly ashy clay
loam

Layer 4—33 to 43 inches; bedrock

See “Chemical Soil Properties” table and the “Physical
Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40
inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE201CA—Ashy slope

Component Description

Crazybird and similar soils

Landform: Mountain slopes

Slope: 15 to 50 percent

Parent material: Volcanic ash, colluvium derived from
pyroclastic rock and residuum weathered from
pyroclastic rock

Typical vegetation: Mountain big sagebrush, other
perennial forbs, Nevada bluegrass, Idaho fescue,
bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 35 percent gravel, 10
percent cobbles, 1 percent stones

Layer 1—0 to 3 inches; very gravelly ashy sandy loam

Layer 2—3 to 15 inches; very gravelly ashy loam

Layer 3—15 to 25 inches; bedrock

See “Chemical Soil Properties” table and the “Physical
Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 14 to 20
inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE223CA—Ashy loamy slope

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Welltomas and similar soils**

Composition: 0 to 4 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Western juniper, low sagebrush, other perennial forbs, bluebunch wheatgrass, other shrubs, bluegrass

Ecological site: R021XE214CA—Claypan

Lithic Argixerolls and similar soils

Composition: 0 to 3 percent

Classification: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—western juniper
Forest understory—antelope bitterbrush, other perennial grasses, other perennial forbs, Thurber's needlegrass, Sandberg bluegrass, mountain big sagebrush, western juniper, other shrubs

Ecological site: F021XE237CA

Dawgbuffer and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Mountain big sagebrush, needlegrass, mountain brome, bluegrass, other trees, roundleaf snowberry, curl-leaf mountain mahogany, bluebunch wheatgrass, other perennial forbs

Ecological site: R021XE210CA—Mahogany Savanna

Hartner and similar soils

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, western juniper, antelope bitterbrush, purple sage, other shrubs, other perennial grasses, needlegrass, rubber rabbitbrush, Indian ricegrass

Ecological site: R021XE204CA—Eroded slope

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 4 to 15 percent

Landform: Mountain slopes

Typical vegetation: Sedge, tufted hairgrass, other perennial forbs, rush, other perennial grasses

Ecological site: R021XE226CA—Seep

Lyonman and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—ponderosa pine
Forest understory—other perennial grasses, roundleaf snowberry, needlegrass, Ross' sedge, other perennial forbs, other shrubs, Wheeler bluegrass, ponderosa pine

Ecological site: F021XE230CA

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Vitrantic Haploxerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Vitrantic Haploxerolls

Slope: 2 to 8 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—black cottonwood
Forest understory—slender wheatgrass, redosier dogwood, other shrubs, Kentucky bluegrass, other perennial grasses, other annual forbs, other perennial forbs, black cottonwood, Woods' rose, willow

Ecological site: F021XE238CA

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

353—Crazybird-Welltomas association***Map Unit Setting***

MLRA: 21

Landscape: Mountains
 Elevation: 4,900 to 7,000
 Precipitation: 16 to 30 inches
 Air temperature: 41 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Crazybird very gravelly ashy sandy loam, 15 to 50 percent slopes—50 percent
 Welltomas very gravelly ashy loam, cool, 15 to 50 percent slopes—35 percent
 Warnermount gravelly ashy loam, 15 to 50 percent slopes—4 percent
 Hartner very gravelly ashy sandy loam, 30 to 75 percent slopes—3 percent
 Rock outcrop, 30 to 75 percent slopes—3 percent
 Dawgbuffer very gravelly ashy sandy loam, 8 to 30 percent slopes—2 percent
 Lyonman gravelly ashy sandy loam, 15 to 50 percent slopes—2 percent
 Lithic Argixerolls very gravelly ashy loam, cool, 15 to 50 percent slopes—1 percent

Component Description

Crazybird and similar soils

Landform: Mountain slopes
 Slope: 15 to 50 percent
 Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Needlegrass, bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs, other trees

Typical profile:

Surface rock fragments: About 35 percent gravel, 10 percent cobbles, 1 percent stones
 Layer 1—0 to 3 inches; very gravelly ashy sandy loam
 Layer 2—3 to 15 inches; very gravelly ashy loam
 Layer 3—15 to 25 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R021XE205CA—South slope

Component Description

Welltomas and similar soils

Landform: Mountain slopes
 Slope: 15 to 50 percent
 Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Other perennial forbs, bluegrass, other shrubs, western juniper, low sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 45 percent gravel, 5 percent cobbles, 5 percent stones
 Layer 1—0 to 2 inches; very gravelly ashy loam
 Layer 2—2 to 7 inches; very gravelly ashy clay loam
 Layer 3—7 to 17 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 1.1 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE214CA—Claypan

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Warnermount warm and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, Idaho fescue, other perennial forbs, Nevada bluegrass

Ecological site: R021XE201CA—Ashy slope

Hartner and similar soils

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Antelope bitterbrush, western juniper, other shrubs, other perennial forbs, bluebunch wheatgrass, purple sage, needlegrass, Indian ricegrass, rubber rabbitbrush, mountain big sagebrush, other perennial grasses

Ecological site: R021XE204CA—Eroded slope

Rock outcrop

Composition: 0 to 3 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Dawgbuffer and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Bluegrass, roundleaf snowberry, needlegrass, mountain brome, bluebunch wheatgrass, other perennial forbs, other trees, curl-leaf mountain mahogany, mountain big sagebrush

Ecological site: R021XE210CA—Mahogany Savanna

Lyonman and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—ponderosa pine
Forest understory—needlegrass, Wheeler bluegrass, ponderosa pine, roundleaf snowberry, Ross' sedge, other perennial forbs, other shrubs, other perennial grasses

Ecological site: F021XE230CA

Lithic Argixerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—western juniper
Forest understory—western juniper, mountain big sagebrush, Thurber's needlegrass, antelope bitterbrush, other perennial grasses, Sandberg bluegrass, other shrubs, other perennial forbs

Ecological site: F021XE237CA

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

354—Crutcher ashy very fine sandy loam

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,460 to 5,610

Precipitation: 8 to 10 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—85 percent

Emagert ashy loam, 0 to 2 percent slopes—7 percent

Couch ashy fine sandy loam, 0 to 2 percent slopes—4 percent

Pegler ashy fine sandy loam, 0 to 2 percent slopes—2 percent

Weimer clay, 0 to 2 percent slopes—2 percent

Component Description

Crutcher and similar soils

Landform: Alluvial flats

Slope: 0 to 2 percent

Parent material: Volcanic ash and alluvium over lacustrine deposits

Typical vegetation: Inland saltgrass, Nevada bluegrass, black greasewood, basin wildrye

Typical profile:

Layer 1—0 to 5 inches; ashy very fine sandy loam

Layer 2—5 to 15 inches; ashy loam

Layer 3—15 to 22 inches; ashy silt loam

Layer 4—22 to 43 inches; stratified ashy sandy loam to ashy silty clay loam

Layer 5—43 to 74 inches; paragravelly ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High,
 (Permeability class: Moderately rapid)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 11 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY010NV—Saline bottom

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Emagert and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Other perennial forbs, basin wildrye, Nevada bluegrass, other perennial grasses, basin big sagebrush
 Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Couch and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Summits of basin-floor remnants
 Typical vegetation: Bottlebrush squirreltail, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, spiny hopsage, black greasewood, other shrubs
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Pegler and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Rock pediments
 Typical vegetation: Sandberg bluegrass, bottlebrush squirreltail, Wyoming big sagebrush, spiny hopsage, other shrubs, Indian ricegrass, Thurber's needlegrass
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Weimer and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Lake plains

Typical vegetation: Other perennial forbs, other perennial grasses, mat muhly, other annual forbs, povertyweed
 Ecological site: R023XY023NV—Wet clay basin

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

355—Crutcher-Isolde association

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,470 to 4,510
 Precipitation: 5 to 10 inches
 Air temperature: 45 to 51 degrees Fahrenheit
 Frost-free period: 90 to 120 days

Composition

Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—55 percent
 Isolde fine sand, 4 to 15 percent slopes—30 percent
 Raglan very fine sandy loam, 0 to 2 percent slopes—5 percent
 Saltmount silty clay loam, 0 to 8 percent slopes—5 percent
 Zorravista fine sand, 4 to 15 percent slopes—5 percent

Component Description

Crutcher and similar soils

Landform: Alluvial flats
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and alluvium over lacustrine deposits
 Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, black greasewood

Typical profile:

Layer 1—0 to 5 inches; ashy very fine sandy loam
 Layer 2—5 to 15 inches; ashy loam
 Layer 3—15 to 22 inches; ashy silt loam
 Layer 4—22 to 43 inches; stratified ashy sandy loam to ashy silty clay loam
 Layer 5—43 to 74 inches; paragravelly ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High,
 (Permeability class: Moderately rapid)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 11 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY010NV—Saline bottom

Component Description**Isolde and similar soils**

Landform: Dunes
 Slope: 4 to 15 percent
 Parent material: Eolian material
 Typical vegetation: Indian ricegrass, other perennial
 forbs, other shrubs, black greasewood, spiny
 hopsage, other perennial grasses, needleandthread,
 basin wildrye

Typical profile:

Layer 1—0 to 7 inches; fine sand
 Layer 2—7 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): Very
 high, (Permeability class: Very rapid)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4s
 Nonirrigated land capability: 7s
 Ecological site: R024XY066NV—Sodic Dunes

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions**Raglan and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Other shrubs, other perennial forbs,
 bottlebrush squirreltail, other perennial grasses, black
 greasewood, bud sagebrush, shadscale
 Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Saltmount and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 8 percent
 Landform: Dunes
 Typical vegetation: Basin wildrye, inland saltgrass, other
 shrubs, black greasewood
 Ecological site: R024XY011NV—Sodic flat 6-8 P.Z.

Zorravista and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Dunes
 Typical vegetation: Spiny hopsage, Indian ricegrass,
 basin wildrye, other perennial forbs, basin big
 sagebrush, fourwing saltbush, other shrubs
 Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

356—Cuminvar muck**Map Unit Setting**

MLRA: 23
 Landscape: Basin
 Elevation: 4,470 to 4,520
 Precipitation: 10 to 12 inches
 Air temperature: 42 to 45 degrees Fahrenheit
 Frost-free period: 100 to 130 days

Composition

Cuminvar muck, 0 to 2 percent slopes—90 percent
 Lolak silty clay, 0 to 2 percent slopes—4 percent
 Cuminvar muck, 0 to 2 percent slopes—3 percent
 Husa ashy clay loam, 0 to 2 percent slopes—3 percent

Component Description**Cuminvar and similar soils**

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or lacustrine deposits
derived from volcanic rock**Typical profile:**

Layer 1—0 to 8 inches; muck

Layer 2—8 to 15 inches; ashy silt loam

Layer 3—15 to 72 inches; clay

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.**Component Properties and Qualities**

Runoff: High

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Water table: Present

Natural drainage class: Very poorly drained

Interpretive Groups

Irrigated land capability: 6w

Nonirrigated land capability: 6w

Typical soil descriptions including ranges in
characteristics are in the "Classification of the Soils"
section.**Contrasting Inclusions****Lolak and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Inland saltgrass, basin wildrye,
Nevada bluegrass, black greasewood

Ecological site: R023XY010NV—Saline bottom

Cuminvar and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Hussa and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

ManagementFor information about managing this map unit, see the
following sections and associated tables in this
publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

357—Cuminvar muck, drained**Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 4,470 to 4,530

Precipitation: 10 to 12 inches

Air temperature: 42 to 45 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Cuminvar muck, 0 to 2 percent slopes—90 percent

Cuminvar muck, 0 to 2 percent slopes—5 percent

Bicondoa clay, 0 to 2 percent slopes—3 percent

Dangvar ashy loam, 0 to 2 percent slopes—2 percent

Component Description**Cuminvar and similar soils**

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or lacustrine deposits
derived from volcanic rock**Typical profile:**

Layer 1—0 to 8 inches; muck

Layer 2—8 to 15 inches; ashy silt loam

Layer 3—15 to 72 inches; clay

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.**Component Properties and Qualities**

Runoff: Very high

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4w

Nonirrigated land capability: 6w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cuminvar and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Lake terraces

Bicondoa and similar soils

Composition: 0 to 3 percent
Slope: 0 to 2 percent
Landform: Flood plains

Dangvar and similar soils

Composition: 0 to 2 percent
Slope: 0 to 2 percent
Landform: Summits of lake terraces
Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, black greasewood
Ecological site: R023XY010NV—Saline bottom

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

358—Cummings ashy silty clay loam

Map Unit Setting

MLRA: 23
Landscape: Basin
Elevation: 5,240 to 5,270
Precipitation: 12 to 16 inches
Air temperature: 40 to 44 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Cummings ashy silty clay loam, 0 to 2 percent slopes—90 percent
Grimlake cobbly clay, 0 to 2 percent slopes—4 percent
Weimer clay, 0 to 2 percent slopes—3 percent
Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—2 percent
Couch ashy fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description

Cummings and similar soils

Landform: Flood plains
Slope: 0 to 2 percent
Parent material: Volcanic ash and/or lacustrine deposits derived from volcanic rock
Typical vegetation: Sedge, meadow barley, rush, bluegrass, other perennial grasses, other perennial forbs, tufted hairgrass

Typical profile:

Layer 1—0 to 6 inches; ashy silty clay loam
Layer 2—6 to 28 inches; ashy silty clay loam
Layer 3—28 to 34 inches; ashy silty clay loam
Layer 4—34 to 44 inches; ashy silty clay loam
Layer 5—44 to 63 inches; ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Available water capacity: About 11 inches
Present flooding: Occasional
Present ponding: None
Water table: Present
Natural drainage class: Very poorly drained

Interpretive Groups

Irrigated land capability: 6w
Nonirrigated land capability: 6w
Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Grimlake and similar soils

Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Lake plain alluvial flats
Typical vegetation: Other perennial forbs, other perennial grasses, Nevada bluegrass, sedge
Ecological site: R023XY013NV—Dry meadow

Weimer and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent
 Landform: Lake plains
 Typical vegetation: Other annual forbs, povertyweed,
 mat muhly, other perennial forbs, other perennial
 grasses
 Ecological site: R023XY023NV—Wet clay basin

Crutcher and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Alluvial flats
 Typical vegetation: Inland saltgrass, Nevada bluegrass,
 basin wildrye, black greasewood
 Ecological site: R023XY010NV—Saline bottom

Couch and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 2 percent
 Landform: Summits of basin-floor remnants
 Typical vegetation: Other perennial grasses, spiny
 hopsage, big sagebrush, bottlebrush squirreltail,
 black greasewood, basin wildrye, other perennial
 forbs, other shrubs
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

359—Cummings mucky ashy silty clay loam

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 5,240 to 5,260
 Precipitation: 12 to 16 inches
 Air temperature: 40 to 44 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Cummings mucky ashy silty clay loam, 0 to 2 percent
 slopes—90 percent
 Weimer clay, 0 to 2 percent slopes—4 percent
 Couch ashy fine sandy loam, 0 to 2 percent slopes—2
 percent
 Crutcher ashy very fine sandy loam, 0 to 2 percent
 slopes—2 percent
 Grimlake cobbly clay, 0 to 2 percent slopes—2 percent

Component Description

Cummings and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or lacustrine deposits
 derived from volcanic rock
 Typical vegetation: Other annual forbs, other perennial
 grasses, other perennial forbs, mat muhly,
 povertyweed

Typical profile:

Layer 1—0 to 6 inches; mucky ashy silty clay loam
 Layer 2—6 to 28 inches; ashy silty clay loam
 Layer 3—28 to 34 inches; ashy silty clay loam
 Layer 4—34 to 44 inches; ashy silty clay loam
 Layer 5—44 to 63 inches; ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately
 slow)
 Salinity: Saline within 40 inches
 Available water capacity: About 11 inches
 Present flooding: None
 Present ponding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 6w
 Nonirrigated land capability: 6w
 Ecological site: R023XY023NV—Wet clay basin

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions

Weimer and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake plains
 Typical vegetation: Other perennial grasses, other
 perennial forbs, mat muhly, povertyweed, other
 annual forbs
 Ecological site: R023XY023NV—Wet clay basin

Couch and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Summits of basin-floor remnants

Typical vegetation: Black greasewood, bottlebrush
squirreltail, basin wildrye, other perennial grasses,
other perennial forbs, big sagebrush, other shrubs,
spiny hopsage

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Crutcher and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Nevada bluegrass, inland saltgrass,
basin wildrye, black greasewood

Ecological site: R023XY010NV—Saline bottom

Grimlake and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Lake plain alluvial flats

Typical vegetation: Other perennial grasses, sedge,
Nevada bluegrass, other perennial forbs

Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the
following sections and associated tables in this
publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

360—Dangvar ashy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,460 to 4,580

Precipitation: 10 to 12 inches

Air temperature: 44 to 45 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Dangvar ashy loam, 0 to 2 percent slopes—85 percent

Hovey silty clay loam, 0 to 2 percent slopes—4 percent

Lolak silty clay, 0 to 2 percent slopes—4 percent

Raglan very fine sandy loam, 0 to 2 percent slopes—4
percent

Hussa ashy clay loam, 0 to 2 percent slopes—3 percent

Component Description

Dangvar and similar soils

Landform: Summits of lake terraces

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or lacustrine deposits
derived from volcanic rock

Typical vegetation: Inland saltgrass, Nevada bluegrass,
black greasewood, basin wildrye

Typical profile:

Layer 1—0 to 4 inches; ashy loam

Layer 2—4 to 17 inches; silty clay

Layer 3—17 to 20 inches; cemented

Layer 4—20 to 35 inches; loam

Layer 5—35 to 54 inches; silty clay loam

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Water table: Present

Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 4w

Nonirrigated land capability: 6w

Ecological site: R023XY010NV—Saline bottom

Typical soil descriptions including ranges in
characteristics are in the "Classification of the Soils"
section.

Contrasting Inclusions

Hovey and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Lolak and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, Nevada bluegrass, basin wildrye, inland saltgrass
Ecological site: R023XY010NV—Saline bottom

Raglan and similar soils

Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Lake terraces

Typical vegetation: Bottlebrush squirreltail, other shrubs, shadscale, bud sagebrush, Indian ricegrass
Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Hussa and similar soils

Composition: 0 to 3 percent
Slope: 0 to 2 percent
Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

361—Dangvar ashy loam, drained, 2 to 5 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Basin
Elevation: 4,470 to 4,580
Precipitation: 10 to 12 inches
Air temperature: 44 to 45 degrees Fahrenheit
Frost-free period: 100 to 130 days

Composition

Dangvar ashy loam, 2 to 5 percent slopes—90 percent
Hussa ashy loam, 0 to 2 percent slopes—4 percent
Bidwell ashy loam, 0 to 2 percent slopes—3 percent
Raglan very fine sandy loam, 0 to 2 percent slopes—3 percent

Component Description

Dangvar and similar soils

Landform: Summits of lake terraces
Slope: 2 to 5 percent
Parent material: Volcanic ash and/or lacustrine deposits derived from volcanic rock
Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, other perennial grasses, Lemmon's alkaligrass

Typical profile:

Layer 1—0 to 4 inches; ashy loam
Layer 2—4 to 17 inches; silty clay
Layer 3—17 to 20 inches; cemented
Layer 4—20 to 35 inches; silty clay loam
Layer 5—35 to 60 inches; silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
Depth to restrictive feature: Duripan: 14 to 20 inches
Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
Salinity: Saline within 40 inches
Sodicity: Sodic within 40 inches
Available water capacity: About 2 inches
Present flooding: Rare
Present ponding: None
Water table: Present
Natural drainage class: Somewhat poorly drained

Interpretive Groups

Irrigated land capability: 4w
Nonirrigated land capability: 7w
Ecological site: R023XY002NV—Saline meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hussa and similar soils

Composition: 0 to 4 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Typical vegetation: Nevada bluegrass, sedge, other perennial grasses, other perennial forbs
Ecological site: R023XY013NV—Dry meadow

Bidwell and similar soils

Composition: 0 to 3 percent
Slope: 0 to 2 percent
Landform: Fan remnants
Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, bluegrass, other shrubs, big sagebrush, Thurber's needlegrass
Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Raglan and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Other shrubs, Indian ricegrass,
 bottlebrush squirreltail, bud sagebrush, shadscale
 Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

362—Davey sandy loam, 2 to 4 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,690 to 4,830
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Davey sandy loam, 2 to 4 percent slopes—90 percent
 Valmy very fine sandy loam, 0 to 2 percent slopes—5 percent
 Pegler ash fine sandy loam, 0 to 2 percent slopes—3 percent
 Zorravista fine sand, 4 to 15 percent slopes—2 percent

Component Description

Davey and similar soils

Landform: Lake plains
 Slope: 2 to 4 percent
 Parent material: Mixed alluvium
 Typical vegetation: Spiny hopsage, Indian ricegrass,
 Thurber's needlegrass, bottlebrush squirreltail,
 Sandberg bluegrass, Wyoming big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 5 inches; sandy loam
 Layer 2—5 to 14 inches; fine sandy loam
 Layer 3—14 to 67 inches; loamy fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High,
 (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3e
 Nonirrigated land capability: 7s
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Valmy and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Fan skirts
 Typical vegetation: Black greasewood, other shrubs,
 spiny hopsage, basin wildrye, other perennial
 grasses, big sagebrush, other perennial forbs,
 bottlebrush squirreltail
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Pegler and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Rock pediments
 Typical vegetation: Other shrubs, Indian ricegrass,
 Thurber's needlegrass, bottlebrush squirreltail,
 Sandberg bluegrass, Wyoming big sagebrush, spiny
 hopsage
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Zorravista and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Dunes
 Typical vegetation: Other shrubs, spiny hopsage, Indian
 ricegrass, basin wildrye, fourwing saltbush, other
 perennial forbs, basin big sagebrush
 Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

363—Dawgbuffer-Rock outcrop association

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,200 to 8,260
 Precipitation: 16 to 36 inches
 Air temperature: 37 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Dawgbuffer very gravelly ashy sandy loam, 15 to 50 percent slopes—70 percent
 Rock outcrop, 30 to 75 percent slopes—15 percent
 Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—5 percent
 Dawgbuffer very gravelly ashy sandy loam, 15 to 50 percent slopes—3 percent
 Fendersflat gravelly ashy loam, 15 to 50 percent slopes—3 percent
 Rubble land, 30 to 50 percent slopes—3 percent
 Skidbrackle very gravelly ashy sandy loam, cool, 4 to 15 percent slopes—1 percent

Component Description

Dawgbuffer and similar soils

Landform: Mountain slopes
 Slope: 15 to 50 percent
 Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Mountain big sagebrush, curl-leaf mountain mahogany, roundleaf snowberry, other perennial forbs, bluebunch wheatgrass, bluegrass, mountain brome, other trees, needlegrass

Typical profile:

Surface rock fragments: About 45 percent cobbles, 20 percent gravel, 5 percent stones
 Layer 1—0 to 4 inches; very gravelly ashy sandy loam
 Layer 2—4 to 13 inches; extremely gravelly ashy sandy clay loam
 Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE210CA—Mahogany Savanna

Component Description

Rock outcrop

Landform: Backslopes of escarpments
 Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Paynepeak and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Roundleaf snowberry, other shrubs, needlegrass, mountain big sagebrush, other perennial forbs, other perennial grasses, bluegrass, mountain brome
 Ecological site: R021XE222CA—Loamy slope

Dawgbuffer cool and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Mountain brome, needlegrass, bluegrass, other shrubs, curl-leaf mountain mahogany, other perennial forbs
 Ecological site: R021XE211CA—Mahogany thicket

Fendersflat and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Mountain big sagebrush, needlegrass, mountain brome, Sandberg bluegrass,

bluebunch wheatgrass, other perennial forbs, other shrubs, roundleaf snowberry
Ecological site: R021XE206CA—Mountain shoulders

Rubble land

Composition: 0 to 3 percent
Slope: 30 to 50 percent
Landform: Backslopes of mountains

Skidbrackle and similar soils

Composition: 0 to 1 percent
Slope: 4 to 15 percent
Landform: Mountain slopes
Typical vegetation: Other perennial grasses, bluegrass, Thurber's needlegrass, Idaho fescue, other perennial forbs, low sagebrush, other shrubs
Ecological site: R021XE221CA—Claypan

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

364—Devada-Bieber association

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 5,020 to 6,110
Precipitation: 9 to 13 inches
Air temperature: 44 to 48 degrees Fahrenheit
Frost-free period: 50 to 100 days

Composition

Devada very cobbly loam, 2 to 15 percent slopes—50 percent
Bieber very gravelly loam, 2 to 15 percent slopes—35 percent
Buffaran very gravelly loam, 2 to 15 percent slopes—8 percent
Reywat very stony loam, 15 to 30 percent slopes—7 percent

Component Description

Devada and similar soils

Landform: Backslopes of plateaus
Slope: 2 to 15 percent
Parent material: Residuum derived from volcanic rocks

Typical vegetation: Low sagebrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 28 percent cobbles, 19 percent gravel
Layer 1—0 to 6 inches; very cobbly loam
Layer 2—6 to 17 inches; clay
Layer 3—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Bieber and similar soils

Landform: Fan remnants
Slope: 2 to 15 percent
Parent material: Alluvium derived from volcanic rocks
Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Typical profile:

Layer 1—0 to 6 inches; very gravelly loam
Layer 2—6 to 10 inches; gravelly clay loam
Layer 3—10 to 16 inches; gravelly clay
Layer 4—16 to 31 inches; cemented material
Layer 5—31 to 60 inches; stratified cobbly sandy loam to very gravelly sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Duripan: 8 to 20 inches

Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Buffaran and similar soils

Composition: 0 to 8 percent
Slope: 2 to 15 percent
Landform: Shoulders of fan remnants
Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Reywat and similar soils

Composition: 0 to 7 percent
Slope: 15 to 30 percent
Landform: Backslopes of plateaus
Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush
Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

365—Devada-Bucklake association

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 5,040 to 6,310
Precipitation: 10 to 13 inches
Air temperature: 44 to 50 degrees Fahrenheit
Frost-free period: 50 to 100 days

Composition

Devada very cobbly loam, 8 to 30 percent slopes—50 percent
Bucklake very cobbly loam, 4 to 30 percent slopes—35 percent
Nitpac very cobbly loam, 4 to 15 percent slopes—4 percent
Rock outcrop—4 percent
Zymans very cobbly loam, 8 to 30 percent slopes—3 percent
Pickup very stony loam, 30 to 50 percent slopes—2 percent
Fiddler very stony loam, 30 to 50 percent slopes—1 percent
Softscrabble very stony loam, 15 to 30 percent slopes—1 percent

Component Description

Devada and similar soils

Landform: Summits of plateaus
Slope: 8 to 30 percent
Parent material: Residuum derived from volcanic rocks
Typical vegetation: Low sagebrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones
Layer 1—0 to 6 inches; very cobbly loam
Layer 2—6 to 17 inches; clay
Layer 3—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Bucklake and similar soils

Landform: Backslopes of plateaus

Slope: 4 to 30 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Wyoming big sagebrush, Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones, 21 percent cobbles, 12 percent gravel, 2 percent fine gravel

Layer 1—0 to 8 inches; very cobbly loam

Layer 2—8 to 12 inches; gravelly clay loam

Layer 3—12 to 24 inches; gravelly clay

Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nitpac and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Toeslopes of plateaus

Typical vegetation: Webber needlegrass, Thurber's needlegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush, bluegrass

Ecological site: R023XY060NV—Cobbly claypan 8-12 P.Z.

Rock outcrop

Composition: 0 to 4 percent

Landform: Plateaus

Zymans and similar soils

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Big sagebrush, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Pickup and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Plateaus

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs, Lahontan sagebrush

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Fiddler and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Forest canopy—western juniper

Forest understory—Thurber's needlegrass, bottlebrush squirreltail, Idaho fescue, Nevada bluegrass, arrowleaf balsamroot, bluebunch wheatgrass, Douglas rabbitbrush, antelope bitterbrush, Sandberg bluegrass

Ecological site: F023XY024NV

Softscrabble and similar soils

Composition: 0 to 1 percent

Slope: 15 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

366—Devada-Bucklake-Softscrabble association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 4,830 to 6,670

Precipitation: 10 to 20 inches

Air temperature: 43 to 50 degrees Fahrenheit

Frost-free period: 50 to 110 days

Composition

Devada cobbly loam, 8 to 30 percent slopes—40 percent
Bucklake very cobbly loam, 15 to 50 percent slopes—30 percent

Softscrabble very cobbly loam, 15 to 50 percent slopes—15 percent

Rubble land, 30 to 50 percent slopes—8 percent

Dosie very gravelly loam, 30 to 50 percent slopes—5 percent

Ashtre very gravelly ashy loam, 8 to 30 percent slopes—2 percent

Component Description

Devada and similar soils

Landform: Mountains

Slope: 8 to 30 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Low sagebrush, bluegrass, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs

Typical profile:

Surface rock fragments: About 10 percent stones, 17 percent cobbles, 7 percent gravel, 1 percent fine gravel

Layer 1—0 to 4 inches; cobbly loam

Layer 2—4 to 13 inches; clay

Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Bucklake and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, Thurber's needlegrass, basin wildrye

Typical profile:

Surface rock fragments: About 10 percent stones, 21 percent cobbles, 12 percent gravel, 2 percent fine gravel

Layer 1—0 to 8 inches; very cobbly loam

Layer 2—8 to 12 inches; gravelly clay loam

Layer 3—12 to 24 inches; gravelly clay

Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Softscrabble and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Other perennial forbs, mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass, basin wildrye, needlegrass

Typical profile:

Surface rock fragments: About 8 percent stones, 17 percent cobbles, 30 percent gravel, 3 percent fine gravel

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Dosie and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, needlegrass, basin wildrye

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Ashtre and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Backslopes of ash flows

Typical vegetation: Needlegrass, other shrubs, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

367—Devada-Dosie-Rubble land association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,760 to 6,640

Precipitation: 10 to 14 inches

Air temperature: 43 to 48 degrees Fahrenheit

Frost-free period: 65 to 100 days

Composition

Devada cobbly loam, 15 to 50 percent slopes—50 percent

Dosie very gravelly loam, 15 to 50 percent slopes—20 percent

Rubble land, 30 to 75 percent slopes—15 percent

Bucklake very stony loam, 15 to 50 percent slopes—8 percent

Softscrabble very stony loam, 15 to 30 percent slopes—5 percent

Wylo very stony loam, 4 to 30 percent slopes—2 percent

Component Description

Devada and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Bluebunch wheatgrass, Thurber's needlegrass, low sagebrush, other perennial forbs, bluegrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 4 inches; cobbly loam

Layer 2—4 to 13 inches; clay

Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Dosie and similar soils

Landform: Backslopes of mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Basin wildrye, needlegrass, mountain big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 3 percent stones

Layer 1—0 to 5 inches; very gravelly loam

Layer 2—5 to 41 inches; very gravelly clay

Layer 3—41 to 51 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Rubble land

Landform: Mountain slopes

Slope: 30 to 75 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bucklake and similar soils

Composition: 0 to 8 percent

Slope: 15 to 50 percent

Landform: Mountains

Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, other perennial forbs, basin wildrye, needlegrass, antelope bitterbrush

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Wylo and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on shoulders of mountains

Typical vegetation: Other perennial forbs, bluegrass, Thurber's needlegrass, bluebunch wheatgrass, Lahontan sagebrush

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

368—Devada-Dosie-Softscrabble association

Map Unit Setting

MLRA: 23

Landscape: Plateau
 Elevation: 5,240 to 7,020
 Precipitation: 10 to 20 inches
 Air temperature: 43 to 48 degrees Fahrenheit
 Frost-free period: 50 to 110 days

Composition

Devada cobbly loam, 2 to 15 percent slopes—50 percent
 Dosie very gravelly loam, 15 to 50 percent slopes—20 percent
 Softscrabble very cobbly loam, 8 to 30 percent slopes—15 percent
 Tuledad extremely cobbly loam, 2 to 4 percent slopes—5 percent
 Bidrim extremely stony loam, 2 to 8 percent slopes—4 percent
 Rock outcrop—3 percent
 Tunnison very cobbly clay, 2 to 8 percent slopes—3 percent

Component Description

Devada and similar soils

Landform: Backslopes of plateaus
 Slope: 2 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Low sagebrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 4 inches; cobbly loam
 Layer 2—4 to 13 inches; clay
 Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Dosie and similar soils

Landform: Southeast to southwest aspects on backslopes of plateaus
 Slope: 15 to 50 percent, southeast to southwest aspects
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Needlegrass, mountain big sagebrush, bluebunch wheatgrass, basin wildrye

Typical profile:

Surface rock fragments: About 3 percent stones
 Layer 1—0 to 5 inches; very gravelly loam
 Layer 2—5 to 41 inches; very gravelly clay
 Layer 3—41 to 51 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Softscrabble and similar soils

Landform: Backslopes of plateaus
 Slope: 8 to 30 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Needlegrass, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, mountain big sagebrush, basin wildrye

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 20 inches; very cobbly loam
 Layer 2—20 to 32 inches; very cobbly clay loam
 Layer 3—32 to 61 inches; gravelly clay loam
 Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Tuledad and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Shoulders of plateaus

Typical vegetation: Other perennial grasses, low sagebrush, other perennial forbs, Sandberg bluegrass, Thurber's needlegrass

Ecological site: R023XY044NV—Very cobbly claypan

Bidrim and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Rims

Typical vegetation: Forest canopy—western juniper
Forest understory—Thurber's needlegrass,
bluegrass, low sagebrush, bluebunch wheatgrass

Ecological site: F023XY091NV

Rock outcrop

Composition: 0 to 3 percent

Landform: Plateaus

Tunnison and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Summits of plateaus

Typical vegetation: Washoe rubber rabbitbrush,
Sandberg bluegrass, other perennial forbs, other shrubs, low sagebrush, bottlebrush squirreltail

Ecological site: R023XY001NV—Churning clay

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

369—Devada-Hart Camp-Tunnison association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,240 to 6,420

Precipitation: 10 to 16 inches

Air temperature: 43 to 49 degrees Fahrenheit

Frost-free period: 50 to 110 days

Composition

Devada very stony loam, 0 to 8 percent slopes—35 percent

Hart Camp stony loam, 4 to 15 percent slopes—25 percent

Tunnison very cobbly clay, 0 to 8 percent slopes—25 percent

Tunnison cobbly clay, 0 to 8 percent slopes—7 percent

Home Camp stony loam, 8 to 50 percent slopes—4 percent

Bidrim extremely stony loam, 2 to 8 percent slopes—3 percent

Rock outcrop, 2 to 50 percent slopes—1 percent

Component Description

Devada and similar soils

Landform: Summits of plateaus

Slope: 0 to 8 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Low sagebrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 23 percent stones

Layer 1—0 to 2 inches; very stony loam

Layer 2—2 to 12 inches; clay

Layer 3—12 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description**Hart Camp and similar soils**

Landform: Shoulders of plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, antelope bitterbrush, other perennial forbs, needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 3 inches; stony loam
 Layer 2—3 to 13 inches; gravelly sandy clay loam
 Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description**Tunnison and similar soils**

Landform: Plateaus
 Slope: 0 to 8 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Low sagebrush, other perennial forbs, other perennial grasses, Sandberg bluegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 17 percent cobbles, 7 percent gravel
 Layer 1—0 to 2 inches; very cobbly clay
 Layer 2—2 to 27 inches; clay
 Layer 3—27 to 30 inches; bedrock
 Layer 4—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches
 Bedrock (lithic): 30 to 40 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY044NV—Very cobbly claypan

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Tunnison and similar soils**

Composition: 0 to 7 percent
 Slope: 0 to 8 percent
 Landform: Summits of plateaus
 Typical vegetation: Other perennial forbs, Sandberg bluegrass, bottlebrush squirreltail, low sagebrush, other shrubs, Washoe rubber rabbitbrush
 Ecological site: R023XY001NV—Churning clay

Home Camp and similar soils

Composition: 0 to 4 percent

Slope: 8 to 50 percent, north aspect
 Landform: North facing backslopes of plateaus
 Typical vegetation: Idaho fescue, needlegrass, basin
 wildrye, bluebunch wheatgrass, other perennial forbs,
 mountain big sagebrush, antelope bitterbrush
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Bidrim and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 8 percent
 Landform: Rims
 Typical vegetation: Forest canopy—western juniper
 Forest understory—bluebunch wheatgrass, Thurber's
 needlegrass, bluegrass, low sagebrush
 Ecological site: F023XY091NV

Rock outcrop

Composition: 0 to 1 percent
 Slope: 2 to 50 percent
 Landform: Ridges

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

370—Devada-Nitpac-Uhaldi association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,650 to 5,990
 Precipitation: 10 to 14 inches
 Air temperature: 44 to 47 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Devada very cobbly loam, 8 to 30 percent slopes—35
 percent
 Nitpac very cobbly loam, 4 to 15 percent slopes—30
 percent
 Uhaldi gravelly loam, 8 to 30 percent slopes—20 percent
 Ninemile very cobbly loam, 8 to 30 percent slopes—5
 percent
 Westbutte stony loam, 15 to 30 percent slopes—4
 percent
 Hart Camp gravelly loam, 4 to 15 percent slopes—3
 percent
 Reywat very stony loam, 15 to 30 percent slopes—3
 percent

Component Description

Devada and similar soils

Landform: Summits of plateaus
 Slope: 8 to 30 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Low sagebrush, bluebunch
 wheatgrass, other perennial forbs, Thurber's
 needlegrass, bluegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 28
 percent cobbles, 19 percent gravel
 Layer 1—0 to 6 inches; very cobbly loam
 Layer 2—6 to 17 inches; clay
 Layer 3—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 12 to 20
 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Nitpac and similar soils

Landform: Toeslopes of plateaus
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Thurber's needlegrass, bluegrass,
 other perennial forbs, bluebunch wheatgrass, low
 sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones, 28
 percent cobbles, 19 percent gravel
 Layer 1—0 to 8 inches; very cobbly loam
 Layer 2—8 to 21 inches; clay
 Layer 3—21 to 26 inches; gravelly clay
 Layer 4—26 to 34 inches; cemented material
 Layer 5—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 20 to 40 inches
 Bedrock (paralithic): 24 to 40 inches
 Saturated hydraulic conductivity class (root zone): Low,
 (Permeability class: Very slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Uhaldi and similar soils

Landform: Backslopes of plateaus
 Slope: 8 to 30 percent
 Parent material: Colluvium and residuum from lacustrine
 sedimentary rock
 Typical vegetation: Bluebunch wheatgrass, other
 perennial forbs, big sagebrush, Thurber's
 needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 6
 percent cobbles, 25 percent gravel
 Layer 1—0 to 4 inches; gravelly loam
 Layer 2—4 to 22 inches; gravelly clay loam
 Layer 3—22 to 46 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40
 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately
 slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY020NV—Loamy 10-12 P.Z.
 Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions

Ninemile and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Other perennial forbs, Thurber's
 needlegrass, Idaho fescue, bluegrass, other
 perennial grasses, bluebunch wheatgrass, low
 sagebrush, other shrubs
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Westbutte and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Needlegrass, Idaho fescue, basin
 wildrye, bluebunch wheatgrass, other perennial forbs,
 mountain big sagebrush, antelope bitterbrush
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Hart Camp and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Plateaus
 Typical vegetation: Other perennial forbs, antelope
 bitterbrush, mountain big sagebrush, bluebunch
 wheatgrass, needlegrass
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Reywat and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Thurber's needlegrass, basin wildrye,
 bluebunch wheatgrass, Wyoming big sagebrush,
 antelope bitterbrush
 Ecological site: R023XY039NV—Loamy slope 10-14
 P.Z.

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

371—Devada-Reywat association**Map Unit Setting**

MLRA: 23

Landscape: Mountains

Elevation: 5,280 to 6,560

Precipitation: 10 to 14 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Devada cobbly loam, 30 to 50 percent slopes—50 percent

Reywat very stony loam, 30 to 50 percent slopes—35 percent

Rubble land, 30 to 50 percent slopes—8 percent

Dosie very gravelly loam, 15 to 50 percent slopes—5 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—2 percent

Component Description**Devada and similar soils**

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 4 inches; cobbly loam

Layer 2—4 to 13 inches; clay

Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description**Reywat and similar soils**

Landform: East to west aspects on backslopes of mountains

Slope: 30 to 50 percent, east to west aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 18 inches; very gravelly clay loam

Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rubble land**

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Dosie and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, mountain big sagebrush

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Hutchley and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Summits of mountains

Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, basin wildrye, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R023XY008NV—Mountain ridge

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

372—Devada-Reywat-Bitner association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,360 to 6,860

Precipitation: 10 to 14 inches

Air temperature: 44 to 52 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Devada cobbly loam, 4 to 15 percent slopes—40 percent

Reywat very stony loam, 15 to 30 percent slopes—30 percent

Bitner very gravelly ashy sandy loam, 4 to 15 percent slopes—15 percent

Grassycan extremely gravelly sandy loam, 2 to 8 percent slopes—5 percent

Rock outcrop—5 percent

Esmod very gravelly ashy fine sandy loam, 2 to 8 percent slopes—3 percent

Hangrock very gravelly ashy loam, 2 to 8 percent slopes—2 percent

Component Description

Devada and similar soils

Landform: Mountains

Slope: 4 to 15 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush, bluegrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 4 inches; cobbly loam

Layer 2—4 to 13 inches; clay

Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Reywat and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 18 inches; very gravelly clay loam

Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Bitner and similar soils

Landform: Shoulders of mountains

Slope: 4 to 15 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Thurber's needlegrass, Idaho fescue, big sagebrush, antelope bitterbrush, bluebunch wheatgrass

Typical profile:

Layer 1—0 to 7 inches; very gravelly ashy sandy loam

Layer 2—7 to 13 inches; gravelly ashy sandy loam

Layer 3—13 to 27 inches; gravelly ashy sandy loam

Layer 4—27 to 37 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Grassy can and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Summits of plateaus

Typical vegetation: Other perennial forbs, low sagebrush, Webber needlegrass, Sandberg bluegrass, other perennial grasses

Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Rock outcrop

Composition: 0 to 5 percent

Landform: Mountains

Esmod and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Other perennial forbs, low sagebrush, Webber needlegrass, Thurber's needlegrass, bluegrass

Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Hangrock and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Thurber's needlegrass, Wyoming big sagebrush, Indian ricegrass, other shrubs, other perennial forbs, other perennial grasses

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

373—Devada-Reywat-Rock outcrop association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,020 to 6,360

Precipitation: 10 to 14 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Devada cobbly loam, 8 to 30 percent slopes—50 percent
Reywat very stony loam, 15 to 30 percent slopes—25 percent

Rock outcrop, 50 to 75 percent slopes—15 percent

Grassy can extremely gravelly sandy loam, 4 to 15 percent slopes—5 percent
 Bombadil very gravelly sandy loam, 4 to 15 percent slopes—4 percent
 Bitner gravelly ashy sandy loam, 8 to 15 percent slopes—1 percent

Component Description

Devada and similar soils

Landform: Mountains
 Slope: 8 to 30 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 4 inches; cobbly loam
 Layer 2—4 to 13 inches; clay
 Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Reywat and similar soils

Landform: East to west aspects on backslopes of mountains
 Slope: 15 to 30 percent, east to west aspects
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Bluebunch wheatgrass, Thurber's needlegrass, basin wildrye, Wyoming big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1—0 to 6 inches; very stony loam
 Layer 2—6 to 18 inches; very gravelly clay loam
 Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Rock outcrop

Landform: Mountains
 Slope: 50 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Grassy can and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Summits of mountains
 Typical vegetation: Other perennial grasses, other perennial forbs, Sandberg bluegrass, low sagebrush, Webber needlegrass
 Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Bombadil and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Mountains
 Typical vegetation: Thurber's needlegrass, Wyoming big sagebrush, other shrubs, other perennial forbs, Indian ricegrass, other perennial grasses

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Bitner and similar soils

Composition: 0 to 1 percent

Slope: 8 to 15 percent

Landform: Shoulders of mountains

Typical vegetation: Antelope bitterbrush, Thurber's needlegrass, Idaho fescue, bluebunch wheatgrass, big sagebrush

Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

374—Devada-Reywat-Rubble land association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 4,880 to 6,350

Precipitation: 10 to 14 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Devada cobbly loam, 8 to 30 percent slopes—40 percent

Reywat very stony loam, 8 to 30 percent slopes—30 percent

Rubble land, 8 to 30 percent slopes—20 percent

Bucklake very stony loam, 15 to 30 percent slopes—5 percent

Dosie very gravelly loam, 15 to 50 percent slopes—3 percent

Bitner gravelly ashy sandy loam, 4 to 15 percent slopes—2 percent

Component Description

Devada and similar soils

Landform: Mountains

Slope: 8 to 30 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 4 inches; cobbly loam

Layer 2—4 to 13 inches; clay

Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Reywat and similar soils

Landform: East to west aspects on backslopes of mountains

Slope: 8 to 30 percent, east to west aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 18 inches; very gravelly clay loam

Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY039NV—Loamy slope 10-14
 P.Z.

Component Description**Rubble land**

Landform: Mountain slopes
 Slope: 8 to 30 percent

Component Properties and Qualities

Runoff: Very low
 Depth to restrictive feature: Bedrock (lithic): 40 to 60
 inches
 Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions**Bucklake and similar soils**

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains
 Typical vegetation: Thurber's needlegrass, bluebunch
 wheatgrass, Wyoming big sagebrush, basin wildrye,
 antelope bitterbrush
 Ecological site: R023XY039NV—Loamy slope 10-14
 P.Z.

Dosie and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Mountain big sagebrush, bluebunch
 wheatgrass, basin wildrye, needlegrass
 Ecological site: R023XY016NV—South slope 12-16 P.Z.

Bitner and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Shoulders of mountains
 Typical vegetation: Big sagebrush, antelope bitterbrush,
 bluebunch wheatgrass, Idaho fescue, Thurber's
 needlegrass
 Ecological site: R023XY096NV—Ashy sandy loam 10-12
 P.Z.

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

375—Devada-Rock outcrop complex, 4 to 15 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Mountains
 Elevation: 5,240 to 6,430
 Precipitation: 10 to 14 inches
 Air temperature: 45 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Devada cobbly loam, 4 to 15 percent slopes—60 percent
 Rock outcrop—25 percent
 Bombadil very gravelly sandy loam, 4 to 15 percent
 slopes—5 percent
 Wylo very stony loam, 4 to 8 percent slopes—5 percent
 Reywat very stony loam, 15 to 30 percent slopes—4
 percent
 Softscrabble very stony loam, 15 to 50 percent slopes—
 1 percent

Component Description**Devada and similar soils**

Landform: Mountains
 Slope: 4 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Other perennial forbs, bluegrass,
 Thurber's needlegrass, bluebunch wheatgrass, low
 sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 4 inches; cobbly loam
 Layer 2—4 to 13 inches; clay
 Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 12 to 20
 inches

Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Rock outcrop

Landform: Mountains

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bombadil and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Mountains

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Wylo and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 8 percent, southeast to southwest aspects
 Landform: Southeast to southwest aspects on shoulders of mountains

Typical vegetation: Bluegrass, bluebunch wheatgrass, other perennial forbs, Lahontan sagebrush, Thurber's needlegrass
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Reywat and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent, east to west aspects
 Landform: East to west aspects on backslopes of mountains
 Typical vegetation: Antelope bitterbrush, Thurber's needlegrass, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 1 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, other perennial forbs, basin wildrye, needlegrass, mountain big sagebrush
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

376—Devada-Rock outcrop-Softscrabble association

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 5,720 to 6,450
 Precipitation: 10 to 20 inches
 Air temperature: 43 to 48 degrees Fahrenheit
 Frost-free period: 50 to 100 days

Composition

Devada cobbly loam, 4 to 15 percent slopes—45 percent
 Rock outcrop—25 percent
 Softscrabble very cobbly loam, 15 to 30 percent slopes—15 percent
 Wylo very stony loam, 4 to 8 percent slopes—8 percent
 Bitner gravelly ashy sandy loam, 8 to 30 percent slopes—7 percent

Component Description

Devada and similar soils

Landform: Mountains
 Slope: 4 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Low sagebrush, bluegrass, Thurber's needlegrass, other perennial forbs, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 4 inches; cobbly loam
 Layer 2—4 to 13 inches; clay
 Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Rock outcrop

Landform: Mountains

Component Description

Softscrabble and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Antelope bitterbrush, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, needlegrass, basin wildrye

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Wylo and similar soils

Composition: 0 to 8 percent

Slope: 4 to 8 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on shoulders of mountains

Typical vegetation: Bluegrass, bluebunch wheatgrass, Thurber's needlegrass, Lahontan sagebrush, other perennial forbs

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Bitner and similar soils

Composition: 0 to 7 percent

Slope: 8 to 30 percent

Landform: Shoulders of mountains

Typical vegetation: Bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, big sagebrush, Thurber's needlegrass

Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

377—Devada-Tuledad association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,150 to 6,170

Precipitation: 9 to 14 inches

Air temperature: 45 to 49 degrees Fahrenheit

Frost-free period: 80 to 110 days

Composition

Devada cobbly loam, 2 to 8 percent slopes—45 percent
Tuledad extremely cobbly loam, 2 to 8 percent slopes—40 percent

Devada very stony loam, 8 to 30 percent slopes—5 percent

Tunnison very cobbly clay, 0 to 8 percent slopes—5 percent

Grassy can very gravelly fine sandy loam, 4 to 8 percent slopes—3 percent
Rock outcrop—2 percent

Component Description

Devada and similar soils

Landform: Summits of plateaus
Slope: 2 to 8 percent
Parent material: Residuum derived from volcanic rocks
Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, bluegrass, low sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones
Layer 1—0 to 4 inches; cobbly loam
Layer 2—4 to 13 inches; clay
Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description

Tuledad and similar soils

Landform: Shoulders of plateaus
Slope: 2 to 8 percent
Parent material: Residuum weathered from basalt
Typical vegetation: Other perennial forbs, low sagebrush, other perennial grasses, Sandberg bluegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
Layer 1—0 to 1 inches; extremely cobbly loam
Layer 2—1 to 3 inches; clay loam
Layer 3—3 to 15 inches; clay
Layer 4—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY044NV—Very cobbly claypan

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 5 percent
Slope: 8 to 30 percent
Landform: Shoulders of plateaus
Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush
Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Tunnison and similar soils

Composition: 0 to 5 percent
Slope: 0 to 8 percent
Landform: Summits of plateaus
Typical vegetation: Other perennial forbs, other shrubs, Sandberg bluegrass, bottlebrush squirreltail, low sagebrush, Washoe rubber rabbitbrush
Ecological site: R023XY001NV—Churning clay

Grassy can and similar soils

Composition: 0 to 3 percent
Slope: 4 to 8 percent
Landform: Summits of lower plateaus
Typical vegetation: Webber needlegrass, low sagebrush, other perennial grasses, other perennial forbs, Sandberg bluegrass
Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Rock outcrop

Composition: 0 to 2 percent
Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
"Engineering" and "Soil Properties" sections

378—Devada-Tuledad-Softscrabble association**Map Unit Setting**

MLRA: 23
Landscape: Plateau
Elevation: 5,320 to 6,250
Precipitation: 9 to 20 inches
Air temperature: 43 to 49 degrees Fahrenheit
Frost-free period: 50 to 110 days

Composition

Devada cobbly loam, 2 to 15 percent slopes—45 percent
Tuledad extremely cobbly loam, 2 to 8 percent slopes—25 percent
Softscrabble cobbly loam, 15 to 30 percent slopes—15 percent
Nitpac very cobbly loam, 2 to 8 percent slopes—5 percent
Tunnison very cobbly clay, 0 to 4 percent slopes—5 percent
Bidrim extremely stony loam, 2 to 8 percent slopes—3 percent
Fiddler very stony loam, 30 to 50 percent slopes—2 percent

Component Description**Devada and similar soils**

Landform: Backslopes of plateaus
Slope: 2 to 15 percent
Parent material: Residuum derived from volcanic rocks
Typical vegetation: Bluegrass, Thurber's needlegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones
Layer 1—0 to 4 inches; cobbly loam
Layer 2—4 to 13 inches; clay
Layer 3—13 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description**Tuledad and similar soils**

Landform: Shoulders of plateaus
Slope: 2 to 8 percent
Parent material: Residuum weathered from basalt
Typical vegetation: Other perennial grasses, other perennial forbs, low sagebrush, Thurber's needlegrass, Sandberg bluegrass

Typical profile:

Surface rock fragments: About 5 percent stones
Layer 1—0 to 1 inches; extremely cobbly loam
Layer 2—1 to 3 inches; clay loam
Layer 3—3 to 15 inches; clay
Layer 4—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY044NV—Very cobbly claypan

Component Description**Softscrabble and similar soils**

Landform: Plateaus

Slope: 15 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, mountain big sagebrush, basin wildrye, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush

Typical profile:

Surface rock fragments: About 3 percent fine gravel, 2 percent stones, 6 percent cobbles, 11 percent gravel

Layer 1—0 to 20 inches; cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 80 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nitpac and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Toeslopes of plateaus

Typical vegetation: Low sagebrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Webber needlegrass, Thurber's needlegrass

Ecological site: R023XY060NV—Cobbly claypan 8-12 P.Z.

Tunnison and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Depressions

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial forbs, other shrubs, low sagebrush, Washoe rubber rabbitbrush

Ecological site: R023XY001NV—Churning clay

Bidrim and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Rims

Typical vegetation: Forest canopy—western juniper

Forest understory—low sagebrush, bluebunch wheatgrass, bluegrass, Thurber's needlegrass

Ecological site: F023XY091NV

Fiddler and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Forest canopy—western juniper

Forest understory—Idaho fescue, Sandberg bluegrass, antelope bitterbrush, Douglas rabbitbrush, Thurber's needlegrass, bottlebrush squirreltail, arrowleaf balsamroot, Nevada bluegrass, bluebunch wheatgrass

Ecological site: F023XY024NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

379—Dismalswamp ashy loams, 0 to 8 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Fault block mountains

Elevation: 6,080 to 8,160

Precipitation: 20 to 50 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Dismalswamp ashy loam, cool, 0 to 8 percent slopes—45 percent

Dismalswamp ashy loam, cool, 0 to 8 percent slopes—40 percent

Aquandic Cryaquolls ashy loam, cool, 0 to 8 percent slopes—5 percent
 Boulderfan ashy loam, 0 to 8 percent slopes—5 percent
 Histic Cryaquolls muck, cool, 0 to 4 percent slopes—3 percent
 Vitrandic Haplocryolls extremely cobbly ashy loam, cool, 0 to 8 percent slopes—1 percent
 Water—1 percent

Component Description

Dismalswamp and similar soils

Landform: Intermontane basins
 Slope: 0 to 8 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Sedge, Nebraska sedge, meadow barley, Baltic rush, other perennial forbs, silver sagebrush, willow, tufted hairgrass

Typical profile:

Layer 1—0 to 22 inches; ashy loam
 Layer 2—22 to 31 inches; gravelly ashy loam
 Layer 3—31 to 60 inches; very gravelly ashy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Negligible
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 11 inches
 Present flooding: Rare
 Present ponding: Occasional
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Nonirrigated land capability: 6w
 Ecological site: R021XE208CA—Semi-wet meadow

Component Description

Dismalswamp wet and similar soils

Landform: Intermontane basins
 Slope: 0 to 8 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Sedge, Nebraska sedge, willow, other perennial forbs, tufted hairgrass

Typical profile:

Layer 1—0 to 22 inches; ashy loam
 Layer 2—22 to 31 inches; gravelly ashy loam
 Layer 3—31 to 60 inches; very gravelly ashy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Negligible
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 11 inches
 Present flooding: Rare
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R021XE207CA—Wet meadow

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Aquandic Cryaquolls and similar soils

Composition: 0 to 5 percent
 Classification: Ashy, glassy Aquandic Cryaquolls
 Slope: 0 to 8 percent
 Landform: Intermontane basins
 Typical vegetation: Other shrubs, willow, other perennial forbs, carex, other perennial grasses
 Ecological site: R021XE225CA—Willow thicket

Boulderfan and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 8 percent
 Landform: Ground moraines
 Typical vegetation: Roundleaf snowberry, silver sagebrush, other perennial forbs, other perennial grasses, needlegrass
 Ecological site: R021XE203CA—Moist mountain basin

Histic Cryaquolls and similar soils

Composition: 0 to 3 percent
 Classification: Ashy, glassy Histic Cryaquolls
 Slope: 0 to 4 percent
 Landform: Intermontane basins
 Typical vegetation: Other perennial grasses, rush, tufted hairgrass, sedge, other perennial forbs
 Ecological site: R021XE226CA—Seep

Vitrandic Haplocryolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy-skeletal, glassy Vitrandic Haplocryolls

Slope: 0 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Sedge, tufted hairgrass, other perennial grasses, other perennial forbs, Woods' rose, willow
 Ecological site: R021XE213CA—Streambank

Water

Composition: 0 to 1 percent
 Landform: Intermontane basins

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

380—Donica gravelly ashy sandy loam, 2 to 5 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,520 to 5,260
 Precipitation: 12 to 16 inches
 Air temperature: 46 to 52 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Donica gravelly ashy sandy loam, 2 to 5 percent slopes—90 percent
 Surprise gravelly ashy sandy loam, 2 to 5 percent slopes—5 percent
 Bidwell ashy loam, 2 to 5 percent slopes—3 percent
 Husa ashy loam, 2 to 5 percent slopes—2 percent

Component Description

Donica and similar soils

Landform: Fan remnants
 Slope: 2 to 5 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Bluebunch wheatgrass, bluegrass, other perennial forbs, other shrubs, big sagebrush, Thurber's needlegrass, antelope bitterbrush

Typical profile:

Layer 1—0 to 13 inches; gravelly ashy sandy loam
 Layer 2—13 to 29 inches; ashy extremely gravelly coarse sandy loam

Layer 3—29 to 60 inches; extremely gravelly ashy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3e
 Nonirrigated land capability: 7e
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Surprise and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Big sagebrush, other shrubs, antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Bidwell and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Big sagebrush, Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush, other shrubs
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Husa and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 5 percent
 Landform: Lake terraces

Typical vegetation: Sedge, Nevada bluegrass, other perennial grasses, other perennial forbs
 Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

381—Donica gravelly ashy sandy loam, 15 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,480 to 5,410
 Precipitation: 12 to 16 inches
 Air temperature: 46 to 52 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Donica gravelly ashy sandy loam, 15 to 30 percent slopes—85 percent
 Donica very stony ashy sandy loam, 2 to 15 percent slopes—5 percent
 Sisdah gravelly ashy loam, 15 to 50 percent slopes—5 percent
 Hartner very gravelly ashy sandy loam, 30 to 75 percent slopes—3 percent
 Fluvaquents very gravelly coarse sand, 2 to 8 percent slopes—2 percent

Component Description

Donica and similar soils

Landform: Fan remnants
 Slope: 15 to 30 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Bluegrass, bluebunch wheatgrass, antelope bitterbrush, big sagebrush, Thurber's needlegrass, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 13 inches; gravelly ashy sandy loam
 Layer 2—13 to 29 inches; extremely gravelly ashy coarse sandy loam
 Layer 3—29 to 60 inches; extremely gravelly ashy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 4e
 Nonirrigated land capability: 7e
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Donica and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Thurber's needlegrass, antelope bitterbrush, big sagebrush, bluegrass, other perennial forbs, bluebunch wheatgrass, other shrubs
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Sisdah and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Hills
 Typical vegetation: Bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, Nevada bluegrass, Idaho fescue
 Ecological site: R021XE223CA—Ashy loamy slope

Hartner and similar soils

Composition: 0 to 3 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of hills
 Typical vegetation: Needlegrass, other shrubs, Indian ricegrass, other perennial grasses, purple sage, antelope bitterbrush, western juniper, rubber rabbitbrush, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass
 Ecological site: R021XE204CA—Eroded slope

Fluvaquents and similar soils

Composition: 0 to 2 percent

Classification: Mesic Fluvaquents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Forest canopy—black cottonwood

Forest understory—other perennial grasses, other perennial forbs, Fremont's cottonwood, beardless wildrye, other shrubs, inland saltgrass, bluebunch wheatgrass, basin wildrye

Ecological site: F023XY034NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

382—Donica gravelly ashy sandy loam, 30 to 50 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,510 to 5,440

Precipitation: 12 to 16 inches

Air temperature: 46 to 52 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Donica gravelly ashy sandy loam, 30 to 50 percent slopes—85 percent

Donica very stony ashy sandy loam, 2 to 15 percent slopes—5 percent

Sesdah gravelly ashy loam, 15 to 50 percent slopes—5 percent

Hartner very gravelly ashy sandy loam, 30 to 75 percent slopes—3 percent

Fluvaquents very gravelly coarse sand, 2 to 8 percent slopes—2 percent

Component Description**Donica and similar soils**

Landform: Lake terraces

Slope: 30 to 50 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Thurber's needlegrass, big sagebrush, bluegrass, other perennial forbs,

bluebunch wheatgrass, antelope bitterbrush, other shrubs

Typical profile:

Layer 1—0 to 13 inches; gravelly ashy sandy loam

Layer 2—13 to 29 inches; ashy extremely gravelly coarse sandy loam

Layer 3—29 to 60 inches; extremely gravelly ashy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Donica and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 15 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, antelope bitterbrush, bluebunch wheatgrass, Thurber's needlegrass, bluegrass, big sagebrush, other perennial forbs

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Sesdah and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: Idaho fescue, Nevada bluegrass, bluebunch wheatgrass, mountain big sagebrush, other perennial forbs

Ecological site: R021XE223CA—Ashy loamy slope

Hartner and similar soils

Composition: 0 to 3 percent

Slope: 30 to 75 percent
 Landform: Backslopes of hills
 Typical vegetation: Purple sage, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, western juniper, rubber rabbitbrush, antelope bitterbrush, other shrubs, needlegrass, Indian ricegrass, other perennial grasses
 Ecological site: R021XE204CA—Eroded slope

Fluvaquents and similar soils

Composition: 0 to 2 percent
 Classification: Mesic Fluvaquents
 Slope: 2 to 8 percent
 Landform: Drainageways
 Typical vegetation: Forest canopy—black cottonwood
 Forest understory—Fremont's cottonwood, beardless wildrye, inland saltgrass, basin wildrye, other perennial forbs, other perennial grasses, bluebunch wheatgrass, other shrubs
 Ecological site: F023XY034NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

383—Donica very gravelly ashy sandy loam, 5 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,700 to 5,250
 Precipitation: 12 to 16 inches
 Air temperature: 46 to 52 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Donica very gravelly ashy sandy loam, 5 to 30 percent slopes—90 percent
 Surprise gravelly ashy sandy loam, 5 to 15 percent slopes—5 percent
 Donica very stony ashy sandy loam, 2 to 15 percent slopes—3 percent
 Fluvaquents very gravelly coarse sand, 2 to 8 percent slopes—1 percent
 Histic Endoaquolls muck, cool, 2 to 8 percent slopes—1 percent

Component Description

Donica and similar soils

Landform: Fan remnants
 Slope: 5 to 30 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, other shrubs, other perennial forbs, bluegrass, big sagebrush, Thurber's needlegrass

Typical profile:

Layer 1—0 to 13 inches; very gravelly ashy sandy loam
 Layer 2—13 to 29 inches; extremely gravelly ashy coarse sandy loam
 Layer 3—29 to 60 inches; extremely gravelly ashy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Surprise and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, other shrubs, bluegrass, big sagebrush, Thurber's needlegrass
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Donica and similar soils

Composition: 0 to 3 percent

Slope: 2 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, bluegrass, big sagebrush, Thurber's needlegrass, other shrubs
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Fluvaquents and similar soils

Composition: 0 to 1 percent
 Classification: Mesic Fluvaquents
 Slope: 2 to 8 percent
 Landform: Drainageways
 Typical vegetation: Forest canopy—black cottonwood
 Forest understory—bluebunch wheatgrass, other perennial grasses, other shrubs, other perennial forbs, inland saltgrass, basin wildrye, beardless wildrye, Fremont's cottonwood
 Ecological site: F023XY034NV

Histic Endoaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy, frigid Histic Endoaquolls
 Slope: 2 to 8 percent
 Landform: Alluvial fans
 Typical vegetation: Sedge, bluegrass, other perennial forbs, other perennial grasses, tufted hairgrass, meadow barley, rush
 Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

384—Donica very stony ashy sandy loam, 2 to 15 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,480 to 5,380
 Precipitation: 12 to 16 inches
 Air temperature: 46 to 52 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Donica very stony ashy sandy loam, 2 to 15 percent slopes—90 percent

Surprise gravelly ashy sandy loam, 5 to 15 percent slopes—5 percent
 Donica very gravelly ashy sandy loam, 5 to 30 percent slopes—3 percent
 Fluvaquents very gravelly coarse sand, 2 to 8 percent slopes—1 percent
 Histic Endoaquolls muck, cool, 2 to 8 percent slopes—1 percent

Component Description

Donica and similar soils

Landform: Fan remnants
 Slope: 2 to 15 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Other shrubs, big sagebrush, bluegrass, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass, antelope bitterbrush

Typical profile:

Layer 1—0 to 13 inches; very stony ashy sandy loam
 Layer 2—13 to 29 inches; ashy extremely gravelly coarse sandy loam
 Layer 3—29 to 60 inches; extremely gravelly ashy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Surprise and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 15 percent
 Landform: Fan remnants

Typical vegetation: Big sagebrush, other shrubs, antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, Thurber's needlegrass, bluegrass
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Donica and similar soils

Composition: 0 to 3 percent

Slope: 5 to 30 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, antelope bitterbrush, bluebunch wheatgrass, Thurber's needlegrass, big sagebrush, bluegrass, other perennial forbs

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Fluvaquents and similar soils

Composition: 0 to 1 percent

Classification: Mesic Fluvaquents

Slope: 2 to 8 percent

Landform: Drainageways

Typical vegetation: Forest canopy—black cottonwood
 Forest understory—bluebunch wheatgrass, inland saltgrass, basin wildrye, beardless wildrye, Fremont's cottonwood, other perennial forbs, other perennial grasses, other shrubs

Ecological site: F023XY034NV

Histic Endoaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy, frigid Histic Endoaquolls

Slope: 2 to 8 percent

Landform: Alluvial fans

Typical vegetation: Meadow barley, sedge, tufted hairgrass, other perennial forbs, rush, bluegrass, other perennial grasses

Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

385—Donica-Surprise gravelly ashy sandy loams, 5 to 15 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,480 to 5,190

Precipitation: 10 to 18 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Donica gravelly ashy sandy loam, 5 to 15 percent slopes—50 percent

Surprise gravelly ashy sandy loam, 5 to 15 percent slopes—40 percent

Donica very stony ashy sandy loam, 2 to 15 percent slopes—4 percent

Surprise gravelly ashy sandy loam, 5 to 15 percent slopes—4 percent

Fluvaquents very gravelly coarse sand, 2 to 8 percent slopes—1 percent

Histic Endoaquolls muck, cool, 5 to 15 percent slopes—1 percent

Component Description

Donica and similar soils

Landform: Fan remnants

Slope: 5 to 15 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Big sagebrush, other shrubs, Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Layer 1—0 to 13 inches; gravelly ashy sandy loam

Layer 2—13 to 29 inches; ashy extremely gravelly coarse sandy loam

Layer 3—29 to 60 inches; extremely gravelly ashy coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 7e
 Ecological site: R023XY022NV—Well drained fan 12-14
 P.Z.

Component Description

Surprise and similar soils

Landform: Fan remnants
 Slope: 5 to 15 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Other shrubs, antelope bitterbrush,
 bluebunch wheatgrass, other perennial forbs, big
 sagebrush, Thurber's needlegrass, bluegrass

Typical profile:

Layer 1—0 to 9 inches; gravelly ashy sandy loam
 Layer 2—9 to 28 inches; stratified gravelly ashy sandy
 loam to gravelly ashy loam
 Layer 3—28 to 57 inches; stratified very gravelly ashy
 sandy loam to gravelly ashy loam

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High,
 (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4e
 Nonirrigated land capability: 6s
 Ecological site: R023XY022NV—Well drained fan 12-14
 P.Z.

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions

Donica and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Bluegrass, Thurber's needlegrass,
 big sagebrush, other shrubs, other perennial forbs,
 antelope bitterbrush, bluebunch wheatgrass
 Ecological site: R023XY022NV—Well drained fan 12-14
 P.Z.

Surprise and similar soils

Composition: 0 to 4 percent
 Slope: 5 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Other shrubs, big sagebrush,
 Thurber's needlegrass, bluegrass, other perennial
 forbs, bluebunch wheatgrass, antelope bitterbrush
 Ecological site: R023XY022NV—Well drained fan 12-14
 P.Z.

Fluvaquents and similar soils

Composition: 0 to 1 percent
 Classification: Mesic Fluvaquents
 Slope: 2 to 8 percent
 Landform: Drainageways
 Typical vegetation: Forest canopy—black cottonwood
 Forest understory—Fremont's cottonwood, beardless
 wildrye, other perennial grasses, bluebunch
 wheatgrass, other shrubs, other perennial forbs,
 basin wildrye, inland saltgrass
 Ecological site: F023XY034NV

Histic Endoaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy, frigid Histic Endoaquolls
 Slope: 5 to 15 percent
 Landform: Alluvial fans
 Typical vegetation: Bluegrass, rush, other perennial
 grasses, other perennial forbs, tufted hairgrass,
 sedge, meadow barley
 Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

386—Dosie-Cormol association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,180 to 6,410
 Precipitation: 10 to 14 inches
 Air temperature: 43 to 47 degrees Fahrenheit
 Frost-free period: 65 to 100 days

Composition

Dosie very gravelly loam, 30 to 50 percent slopes—50
 percent

Cormol very cobbly ashy loam, 30 to 50 percent slopes—35 percent
 Devada very stony loam, 15 to 30 percent slopes—7 percent
 Softscrabble cobbly loam, 30 to 50 percent slopes—5 percent
 Fiddler very stony loam, 30 to 50 percent slopes—3 percent

Component Description

Dosie and similar soils

Landform: East to southwest aspects on backslopes of plateaus
 Slope: 30 to 50 percent, east to southwest aspects
 Parent material: Colluvium derived from volcanic rocks
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye, needlegrass

Typical profile:

Surface rock fragments: About 3 percent stones
 Layer 1—0 to 5 inches; very gravelly loam
 Layer 2—5 to 41 inches; very gravelly clay
 Layer 3—41 to 51 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Cormol and similar soils

Landform: East to southwest aspects on backslopes of plateaus
 Slope: 30 to 50 percent, east to southwest aspects
 Parent material: Volcanic ash and residuum weathered from volcanic rock

Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1—0 to 3 inches; very cobbly ashy loam
 Layer 2—3 to 7 inches; ashy loam
 Layer 3—7 to 11 inches; ashy sandy clay loam
 Layer 4—11 to 18 inches; very paragravelly ashy sandy clay loam
 Layer 5—18 to 34 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Low sagebrush, bluebunch wheatgrass, other perennial forbs, Thurber's needlegrass, bluegrass
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent

Landform: Plateaus

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, mountain big sagebrush

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Fiddler and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Forest canopy—western juniper

Forest understory—bluebunch wheatgrass, bottlebrush squirreltail, Thurber's needlegrass, Idaho fescue, Nevada bluegrass, Sandberg bluegrass, arrowleaf balsamroot, antelope bitterbrush, Douglas rabbitbrush

Ecological site: F023XY024NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

387—Dosie-Fiddler-Rubble land association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,910 to 7,160

Precipitation: 12 to 14 inches

Air temperature: 43 to 46 degrees Fahrenheit

Frost-free period: 65 to 90 days

Composition

Dosie very gravelly loam, 30 to 50 percent slopes—40 percent

Fiddler very cobbly loam, 30 to 50 percent slopes—25 percent

Rubble land, 30 to 50 percent slopes—20 percent

Devada very stony loam, 15 to 50 percent slopes—6 percent

Bucklake very stony loam, 30 to 50 percent slopes—4 percent

Westbutte stony loam, 15 to 50 percent slopes—3 percent

Hart Camp gravelly loam, 15 to 30 percent slopes—2 percent

Component Description

Dosie and similar soils

Landform: Southeast to west aspects on backslopes of plateaus

Slope: 30 to 50 percent, southeast to west aspects

Parent material: Colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones, 5 percent cobbles, 34 percent gravel

Layer 1—0 to 5 inches; very gravelly loam

Layer 2—5 to 41 inches; very gravelly clay

Layer 3—41 to 51 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Fiddler and similar soils

Landform: Backslopes of plateaus

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Forest canopy—western juniper

Forest understory—other shrubs, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses, Canby bluegrass, Idaho fescue, Thurber's needlegrass

Site index: Western juniper—17 at an age base of 50 years

Typical profile:

Surface rock fragments: About 13 percent stones, 24 percent cobbles, 2 percent gravel

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 28 inches; very cobbly clay

Layer 3—28 to 38 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: F023XY024NV

Component Description

Rubble land

Landform: Escarpments
 Slope: 30 to 50 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 6 percent
 Slope: 15 to 50 percent
 Landform: Plateaus
 Typical vegetation: Thurber's needlegrass, low sagebrush, bluebunch wheatgrass, bluegrass, other perennial forbs
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Bucklake and similar soils

Composition: 0 to 4 percent
 Slope: 30 to 50 percent
 Landform: Plateaus

Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, Wyoming big sagebrush, basin wildrye, Thurber's needlegrass
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Westbutte and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush, other perennial forbs, needlegrass, Idaho fescue, basin wildrye
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Hart Camp and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, needlegrass, other perennial forbs, antelope bitterbrush
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

388—Dosie-Rubble land association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,920 to 6,970
 Precipitation: 8 to 50 inches
 Air temperature: 43 to 54 degrees Fahrenheit
 Frost-free period: 65 to 180 days

Composition

Dosie very gravelly loam, 15 to 50 percent slopes—65 percent
 Rubble land, 15 to 50 percent slopes—25 percent
 Bidrim extremely stony loam, 2 to 15 percent slopes—4 percent
 Pickup very stony loam, 30 to 50 percent slopes—3 percent

Softscrabble very stony loam, 15 to 50 percent slopes—
3 percent

Component Description

Dosie and similar soils

Landform: Southeast to west aspects on plateaus
Slope: 15 to 50 percent, southeast to west aspects
Parent material: Residuum and colluvium derived from
volcanic rocks
Typical vegetation: Basin wildrye, bluebunch
wheatgrass, mountain big sagebrush, needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones, 10
percent cobbles, 18 percent gravel, 4 percent fine
gravel

Layer 1—0 to 5 inches; very gravelly loam

Layer 2—5 to 41 inches; very gravelly clay

Layer 3—41 to 51 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 40 to 60
inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Rubble land

Landform: Plateaus

Slope: 15 to 50 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60
inches

Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in
characteristics are in the "Classification of the Soils"
section.

Contrasting Inclusions

Bidrim and similar soils

Composition: 0 to 4 percent

Slope: 2 to 15 percent

Landform: Rims

Typical vegetation: Forest canopy—western juniper

Forest understory—low sagebrush, Thurber's
needlegrass, bluebunch wheatgrass, bluegrass

Ecological site: F023XY091NV

Pickup and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Plateaus

Typical vegetation: Other perennial forbs, Lahontan
sagebrush, bluegrass, bluebunch wheatgrass,
Thurber's needlegrass

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Softscrabble and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Plateaus

Typical vegetation: Needlegrass, basin wildrye, other
perennial forbs, antelope bitterbrush, mountain big
sagebrush, bluebunch wheatgrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Management

For information about managing this map unit, see the
following sections and associated tables in this
publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

389—Dosie-Softscrabble association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,680 to 7,010

Precipitation: 12 to 20 inches

Air temperature: 43 to 46 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Dosie very gravelly loam, 15 to 50 percent slopes—50
percent

Softscrabble very cobbly loam, 15 to 50 percent
slopes—40 percent

Redhome cobbly loam, 8 to 15 percent slopes—4
percent

Menbo very cobbly loam, 8 to 30 percent slopes—3 percent
 Devada very stony loam, 2 to 15 percent slopes—2 percent
 Bidrim extremely stony loam, 2 to 8 percent slopes—1 percent

Component Description

Dosie and similar soils

Landform: West to east aspects on backslopes of plateaus
 Slope: 15 to 50 percent, west to east aspects
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Needlegrass, mountain big sagebrush, bluebunch wheatgrass, basin wildrye

Typical profile:

Surface rock fragments: About 3 percent stones
 Layer 1—0 to 5 inches; very gravelly loam
 Layer 2—5 to 41 inches; very gravelly clay
 Layer 3—41 to 51 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Softscrabble and similar soils

Landform: Backslopes of plateaus
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Needlegrass, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, mountain big sagebrush, basin wildrye

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 20 inches; very cobbly loam
 Layer 2—20 to 32 inches; very cobbly clay loam
 Layer 3—32 to 61 inches; gravelly clay loam
 Layer 4—61 to 71 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 60 to 80 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Redhome and similar soils

Composition: 0 to 4 percent
 Slope: 8 to 15 percent
 Landform: Shoulders of plateaus
 Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, mountain big sagebrush
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Menbo and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 30 percent
 Landform: Plateaus
 Typical vegetation: Other perennial forbs, bluebunch wheatgrass, needlegrass, mountain big sagebrush, basin wildrye, Idaho fescue, antelope bitterbrush
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Devada and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 15 percent
 Landform: Backslopes of plateaus

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, low sagebrush, bluebunch wheatgrass

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Bidrim and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Rims

Typical vegetation: Forest canopy—western juniper

Forest understory—low sagebrush, bluegrass,

Thurber's needlegrass, bluebunch wheatgrass

Ecological site: F023XY091NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

390—Emagert ashy loam

Map Unit Setting

MLRA: 23

Landscape: Intermontane basin

Elevation: 4,650 to 5,270

Precipitation: 10 to 14 inches

Air temperature: 45 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Emagert ashy loam, 0 to 2 percent slopes—90 percent

Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—5 percent

Couch ashy fine sandy loam, 0 to 2 percent slopes—4 percent

Wetvit ashy fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description

Emagert and similar soils

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Basin wildrye, Nevada bluegrass, other perennial grasses, other perennial forbs, basin big sagebrush

Typical profile:

Layer 1—0 to 14 inches; ashy loam

Layer 2—14 to 38 inches; stratified sandy loam to silty clay loam

Layer 3—38 to 60 inches; stratified gravelly loamy sand to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 12 inches

Present flooding: Rare

Present ponding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Crutcher and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Inland saltgrass, basin wildrye,

Nevada bluegrass, black greasewood

Ecological site: R023XY010NV—Saline bottom

Couch and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Summits of stream terraces

Typical vegetation: Other shrubs, black greasewood, spiny hopsage, big sagebrush, other perennial forbs, other perennial grasses, basin wildrye, bottlebrush squirreltail

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Wetvit and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Flood plains

Typical vegetation: Nevada bluegrass, other perennial forbs, other perennial grasses, sedge, creeping wildrye

Ecological site: R023XY089NV—Wet meadow 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
"Engineering" and "Soil Properties" sections

391—Emagert-Wetvit association

Map Unit Setting

MLRA: 23

Landscape: Intermontane basin

Elevation: 4,530 to 5,940

Precipitation: 9 to 16 inches

Air temperature: 45 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Emagert ashy loam, 0 to 2 percent slopes—70 percent

Wetvit ashy fine sandy loam, 0 to 2 percent slopes—15 percent

Weezweed ashy loam, 0 to 2 percent slopes—7 percent

Vitrixerandic Haplargids ashy sandy loam, 0 to 4 percent slopes—5 percent

Wetvit ashy fine sandy loam, 0 to 2 percent slopes—3 percent

Component Description

Emagert and similar soils

Landform: Stream terraces

Slope: 0 to 2 percent

Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Basin wildrye, basin big sagebrush, other perennial forbs, Nevada bluegrass, other perennial grasses

Typical profile:

Layer 1—0 to 14 inches; ashy loam

Layer 2—14 to 38 inches; stratified sandy loam to silty clay loam

Layer 3—38 to 60 inches; stratified gravelly loamy sand to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 12 inches

Present flooding: Rare

Present ponding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Component Description

Wetvit and similar soils

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Other perennial grasses, other perennial forbs, Nevada bluegrass, creeping wildrye, sedge

Typical profile:

Layer 1—0 to 16 inches; ashy fine sandy loam

Layer 2—16 to 44 inches; stratified ashy sandy loam to ashy clay loam

Layer 3—44 to 60 inches; stratified gravelly ashy loamy sand to ashy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 11 inches

Present flooding: Frequent

Present ponding: None

Water table: Present

Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 5w

Ecological site: R023XY089NV—Wet meadow 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Weezweed and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Basin big sagebrush, Nevada bluegrass, basin wildrye, other perennial forbs, western wheatgrass

Ecological site: R023XY005NV—Dry floodplain

Vitrikerandic Haplargids and similar soils

Composition: 0 to 5 percent

Classification: Ashy, glassy, mesic Vitrikerandic Haplargids

Slope: 0 to 4 percent

Landform: Fan remnants

Typical vegetation: Bluegrass, other perennial grasses, basin wildrye, big sagebrush, needlegrass

Ecological site: R023XY082NV—Loamy fan 10-12 P.Z.

Wetvit and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Typical vegetation: Sedge, other perennial forbs, other perennial grasses, Nevada bluegrass

Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

392—Emamount-Grimlake association

Map Unit Setting

MLRA: 23

Landscape: Intermontane basin

Elevation: 6,100 to 6,770

Precipitation: 12 to 16 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 60 to 100 days

Composition

Emamount ashy loam, 0 to 4 percent slopes—75 percent

Grimlake cobbly clay, 0 to 2 percent slopes—15 percent

Macyflet silt loam, 0 to 2 percent slopes—5 percent

Boulder Lake silty clay, 0 to 2 percent slopes—3 percent
Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—2 percent

Component Description

Emamount and similar soils

Landform: Stream terraces

Slope: 0 to 4 percent

Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Other perennial forbs, mountain big sagebrush, other perennial grasses, basin wildrye, wheatgrass

Typical profile:

Layer 1—0 to 17 inches; ashy loam

Layer 2—17 to 38 inches; stratified sandy loam to silty clay loam

Layer 3—38 to 60 inches; stratified gravelly loamy sand to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 12 inches

Present flooding: Rare

Present ponding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY056NV—Loamy bottom 12-16 P.Z.

Component Description

Grimlake and similar soils

Landform: Lake plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from volcanic rocks

Typical vegetation: Sedge, other perennial forbs, other perennial grasses, Nevada bluegrass

Typical profile:

Layer 1—0 to 2 inches; cobbly clay

Layer 2—2 to 5 inches; clay

Layer 3—5 to 14 inches; clay

Layer 4—14 to 32 inches; clay

Layer 5—32 to 43 inches; sandy clay loam
 Layer 6—43 to 60 inches; very cobbly clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XY013NV—Dry meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Macyflet and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Alluvial flats
 Typical vegetation: Other perennial forbs, early sagebrush, needlegrass, basin wildrye, Cusick's bluegrass, Nevada bluegrass
 Ecological site: R023XY090NV—Clay plain

Boulder Lake and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Silver sagebrush, other perennial forbs, Nevada bluegrass, mat muhly, wildrye
 Ecological site: R023XY003NV—Clay basin

Cavin and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent, east to west aspects
 Landform: East to west aspects on shoulders of mountains
 Typical vegetation: Bluebunch wheatgrass, Idaho fescue, mountain big sagebrush, other perennial forbs, Cusick's bluegrass, needlegrass

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

393—Esmod very gravelly fine sandy loam, 2 to 8 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 5,590 to 6,240
 Precipitation: 10 to 12 inches
 Air temperature: 45 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Esmod very gravelly fine sandy loam, 2 to 8 percent slopes—90 percent
 Ashcamp very gravelly ashy sandy loam, 2 to 4 percent slopes—3 percent
 Leviathan very gravelly loam, 15 to 30 percent slopes—3 percent
 Devada very cobbly loam, 2 to 8 percent slopes—2 percent
 Saraph very gravelly ashy sandy loam, 15 to 30 percent slopes—2 percent

Component Description

Esmod and similar soils

Landform: Summits of fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rocks
 Typical vegetation: Other perennial forbs, Thurber's needlegrass, Webber needlegrass, low sagebrush, bluegrass

Typical profile:

Layer 1—0 to 6 inches; very gravelly fine sandy loam
 Layer 2—6 to 15 inches; clay
 Layer 3—15 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low,
 (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ashcamp and similar soils**

Composition: 0 to 3 percent
 Slope: 2 to 4 percent
 Landform: Shoulders of hills
 Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, big sagebrush
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Leviathan and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Fan remnants
 Typical vegetation: Big sagebrush, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Devada and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Summits of hills
 Typical vegetation: Low sagebrush, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, bluegrass
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Saraph and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Summits of rock pediments
 Typical vegetation: Other perennial grasses, Wyoming big sagebrush, other perennial forbs, Thurber's needlegrass, Indian ricegrass, other shrubs
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

394—Esmod-Hangrock association***Map Unit Setting***

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 5,460 to 6,080
 Precipitation: 9 to 12 inches
 Air temperature: 45 to 47 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Esmod very gravelly ashy fine sandy loam, 2 to 8 percent slopes—50 percent
 Hangrock very gravelly ashy loam, 2 to 8 percent slopes—35 percent
 Grassycan extremely gravelly sandy loam, 2 to 8 percent slopes—7 percent
 Saraph very gravelly ashy sandy loam, 15 to 30 percent slopes—5 percent
 Macnot gravelly ashy sandy loam, 0 to 2 percent slopes—3 percent

Component Description**Esmod and similar soils**

Landform: Summits of fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rocks
 Typical vegetation: Thurber's needlegrass, Webber needlegrass, other perennial forbs, low sagebrush, bluegrass

Typical profile:

Layer 1—0 to 6 inches; very gravelly ashy fine sandy loam
 Layer 2—6 to 15 inches; clay
 Layer 3—15 to 60 inches; cemented material
 See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low,
 (Permeability class: Very slow)

Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Component Description

Hangrock and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, other perennial forbs, other shrubs, Wyoming big sagebrush, other perennial grasses

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy loam
 Layer 2—4 to 17 inches; gravelly ashy clay loam
 Layer 3—17 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Grassy can and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 8 percent
 Landform: Summits of hills

Typical vegetation: Low sagebrush, Sandberg bluegrass, other perennial forbs, other perennial grasses, Webber needlegrass
 Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Saraph and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Summits of rock pediments
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Macnot nearly level and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Basin wildrye, thickspike wheatgrass, other perennial forbs, other shrubs, spiny hopsage, big sagebrush
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

395—Esmod-Powlow association

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 5,630 to 6,410
 Precipitation: 10 to 12 inches
 Air temperature: 45 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Esmod very gravelly ashy fine sandy loam, 2 to 8 percent slopes—50 percent
 Powlow very gravelly loam, 2 to 8 percent slopes—35 percent
 Bitner gravelly ashy sandy loam, 4 to 15 percent slopes—6 percent
 Ashone very gravelly ashy fine sandy loam, 2 to 8 percent slopes—4 percent
 Devada very cobbly loam, 4 to 15 percent slopes—3 percent
 Hangrock very gravelly ashy loam, 2 to 8 percent slopes—2 percent

Component Description

Esmod and similar soils

Landform: Summits of fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rocks
 Typical vegetation: Low sagebrush, bluegrass, other perennial forbs, Webber needlegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 6 inches; very gravelly ashy fine sandy loam
 Layer 2—6 to 15 inches; clay
 Layer 3—15 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Component Description

Powlow and similar soils

Landform: Shoulders of fan remnants
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rocks
 Typical vegetation: Big sagebrush, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs

Typical profile:

Layer 1—0 to 6 inches; very gravelly loam
 Layer 2—6 to 15 inches; clay
 Layer 3—15 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bitner and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 15 percent
 Landform: Shoulders of hills
 Typical vegetation: Antelope bitterbrush, big sagebrush, bluebunch wheatgrass, Idaho fescue, Thurber's needlegrass
 Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Ashone and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 8 percent
 Landform: Backslopes of ash flows
 Typical vegetation: Idaho fescue, antelope bitterbrush, bluebunch wheatgrass, bluegrass, low sagebrush, Thurber's needlegrass
 Ecological site: R023XY078NV—Ashy claypan 10-14 P.Z.

Devada and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Summits of hills
 Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Hangrock and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, Wyoming big sagebrush, other perennial grasses, other perennial forbs, other shrubs
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
"Engineering" and "Soil Properties" sections

396—Ferver very cobbly sandy loam, 2 to 8 percent slopes**Map Unit Setting**

MLRA: 23
Landscape: Plateau
Elevation: 4,950 to 6,300
Precipitation: 10 to 12 inches
Air temperature: 45 to 47 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Ferver very cobbly sandy loam, 2 to 8 percent slopes—85 percent
Saraph very cobbly ashy sandy loam, 8 to 30 percent slopes—6 percent
Bombadil very gravelly sandy loam, 4 to 15 percent slopes—4 percent
Macnot gravelly ashy sandy loam, 2 to 4 percent slopes—3 percent
Devada cobbly loam, 4 to 15 percent slopes—1 percent
Rock outcrop—1 percent

Component Description**Ferver and similar soils**

Landform: Toeslopes of plateaus
Slope: 2 to 8 percent
Parent material: Alluvium derived from volcanic rock
Typical vegetation: Thurber's needlegrass, Webber needlegrass, other perennial forbs, bluegrass, low sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones, 28 percent cobbles, 19 percent gravel
Layer 1—0 to 2 inches; very cobbly sandy loam
Layer 2—2 to 5 inches; silt loam
Layer 3—5 to 28 inches; clay
Layer 4—28 to 35 inches; clay loam
Layer 5—35 to 46 inches; cemented material
Layer 6—46 to 56 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Duripan: 20 to 40 inches
Bedrock (paralithic): 40 to 60 inches
Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
Available water capacity: About 5 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Saraph and similar soils**

Composition: 0 to 6 percent
Slope: 8 to 30 percent
Landform: Summits of rock pediments
Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Indian ricegrass, Thurber's needlegrass
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Bombadil and similar soils

Composition: 0 to 4 percent
Slope: 4 to 15 percent
Landform: Plateaus
Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Macnot and similar soils

Composition: 0 to 3 percent
Slope: 2 to 4 percent
Landform: Alluvial fans
Typical vegetation: Other perennial forbs, thickspike wheatgrass, basin wildrye, big sagebrush, other shrubs, spiny hopsage
Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Devada and similar soils

Composition: 0 to 1 percent
Slope: 4 to 15 percent
Landform: Plateaus

Typical vegetation: Bluegrass, low sagebrush, bluebunch wheatgrass, other perennial forbs, Thurber's needlegrass
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Rock outcrop

Composition: 0 to 1 percent
 Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

397—Ferver-Tunnison association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,020 to 6,070
 Precipitation: 10 to 13 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Ferver very cobbly silt loam, 2 to 8 percent slopes—65 percent
 Tunnison cobbly clay, 0 to 4 percent slopes—20 percent
 Lithic Xeric Haplargids cobbly loam, 2 to 8 percent slopes—7 percent
 Devada very cobbly loam, 2 to 8 percent slopes—6 percent
 Boulder Lake silty clay, 0 to 2 percent slopes—2 percent

Component Description

Ferver and similar soils

Landform: Toeslopes of plateaus
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Bluegrass, Webber needlegrass, other perennial forbs, low sagebrush, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 28 percent cobbles, 19 percent gravel
 Layer 1—0 to 2 inches; very cobbly silt loam
 Layer 2—2 to 5 inches; silt loam
 Layer 3—5 to 28 inches; clay
 Layer 4—28 to 35 inches; clay loam

Layer 5—35 to 46 inches; cemented material
 Layer 6—46 to 56 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 20 to 40 inches
 Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Component Description

Tunnison and similar soils

Landform: Depressions
 Slope: 0 to 4 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial forbs, other shrubs, low sagebrush, Washoe rubber rabbitbrush

Typical profile:

Surface rock fragments: About 17 percent cobbles, 7 percent gravel
 Layer 1—0 to 2 inches; cobbly clay
 Layer 2—2 to 27 inches; clay
 Layer 3—27 to 30 inches; bedrock
 Layer 4—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches; Bedrock (lithic): 30 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY001NV—Churning clay

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Lithic Xeric Haplargids and similar soils**

Composition: 0 to 7 percent

Classification: Loamy, mixed, superactive, mesic Lithic Xeric Haplargids

Slope: 2 to 8 percent

Landform: Plateaus

Typical vegetation: Other perennial forbs, low sagebrush, other perennial grasses, Sandberg bluegrass, Webber needlegrass

Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Devada and similar soils

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Plateaus

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Boulder Lake and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Wildrye, mat muhly, Nevada bluegrass, other perennial forbs, silver sagebrush

Ecological site: R023XY003NV—Clay basin

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

398—Fitzwater-Westbutte association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,000 to 6,000

Precipitation: 12 to 16 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 40 to 90 days

Composition

Fitzwater extremely stony loam, 30 to 50 percent slopes—60 percent

Westbutte extremely stony loam, 30 to 50 percent slopes—25 percent

Bucklake very stony loam, 30 to 50 percent slopes—3 percent

Felcher very cobbly clay loam, 30 to 50 percent slopes—3 percent

Freznik very stony loam, 2 to 15 percent slopes—3 percent

Riddleranch very gravelly loam, 30 to 50 percent slopes—3 percent

Cumulic Haploxerolls very gravelly loam, 0 to 4 percent slopes—1 percent

Pearlwise loam, 2 to 30 percent slopes—1 percent

Rock outcrop, 30 to 70 percent slopes—1 percent

Component Description**Fitzwater and similar soils**

Landform: Southeast to west aspects on backslopes of plateaus

Slope: 30 to 50 percent, southeast to west aspects

Parent material: Colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 24 percent stones, 21 percent cobbles, 15 percent gravel

Layer 1—0 to 10 inches; extremely stony loam

Layer 2—10 to 19 inches; extremely cobbly clay loam

Layer 3—19 to 60 inches; extremely cobbly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Westbutte and similar soils

Landform: West to northeast aspects on backslopes of plateaus

Slope: 30 to 50 percent, west to northeast aspects

Parent material: Colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 2 percent stones, 13 percent cobbles, 10 percent gravel

Layer 1—0 to 7 inches; extremely stony loam

Layer 2—7 to 33 inches; very stony loam

Layer 3—33 to 43 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bucklake and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Plateaus

Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Felcher and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Plateaus

Typical vegetation: Basin wildrye, Thurber's needlegrass, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Freznik and similar soils

Composition: 0 to 3 percent

Slope: 2 to 15 percent

Landform: Plateaus

Typical vegetation: Sandberg bluegrass, lupine, lomatium, low sagebrush, bluebunch wheatgrass, balsamroot

Ecological site: R023XY214OR—Claypan

Riddleranch and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent, northwest to east aspects

Landform: Northwest to east aspects on plateaus

Typical vegetation: Bluebunch wheatgrass, big sagebrush, Idaho fescue, Sandberg bluegrass

Ecological site: R023XY308OR—North slopes

Cumulic Haploxerolls and similar soils

Composition: 0 to 1 percent

Classification: Loamy-skeletal, mixed, superactive, frigid Cumulic Haploxerolls

Slope: 0 to 4 percent

Landform: Stream terraces

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye

Ecological site: R023XY056NV—Loamy bottom 12-16 P.Z.

Pearlwise and similar soils

Composition: 0 to 1 percent

Slope: 2 to 30 percent

Landform: Plateaus

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, Idaho fescue

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 70 percent

Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section

"Engineering" and "Soil Properties" sections

399—Fluvaquents-Riverwash complex, 2 to 8 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Fan piedmont
Elevation: 4,460 to 5,000
Precipitation: 8 to 15 inches
Air temperature: 46 to 52 degrees Fahrenheit
Frost-free period: 90 to 180 days

Composition

Fluvaquents very gravelly coarse sand, 2 to 8 percent slopes—50 percent
Riverwash gravelly coarse sand, 2 to 8 percent slopes—45 percent
Vitritorrandic Haploxerolls very cobbly ashy sandy loam, 2 to 8 percent slopes—4 percent
Water—1 percent

Component Description

Fluvaquents and similar soils

Landform: Drainageways
Slope: 2 to 8 percent
Parent material: Mixed alluvium
Typical vegetation: Forest canopy—black cottonwood
Forest understory—basin wildrye, sedge, creeping wildrye, other perennial grasses, other perennial forbs, other shrubs, Woods' rose, Fremont's cottonwood
Site index: Black cottonwood—68 at an age base of 30 years

Typical profile:

Layer 1—0 to 6 inches; very gravelly coarse sand
Layer 2—6 to 60 inches; stratified very gravelly coarse sand to clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Available water capacity: About 4 inches
Present flooding: Frequent
Present ponding: None

Water table: Present
Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 8w
Ecological site: F023XY034NV

Component Description

Riverwash

Landform: Drainageways
Slope: 2 to 8 percent

Component Properties and Qualities

Runoff: Low
Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Vitritorrandic Haploxerolls and similar soils

Composition: 0 to 4 percent
Classification: Ashy-skeletal, glassy, mesic Vitritorrandic Haploxerolls
Slope: 2 to 8 percent
Landform: Stream terraces
Typical vegetation: Other perennial forbs, other perennial grasses, Nevada bluegrass, sedge
Ecological site: R023XY013NV—Dry meadow

Water

Composition: 0 to 1 percent
Landform: Drainageways

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
"Engineering" and "Soil Properties" sections

400—Four Star ashy loam

Map Unit Setting

MLRA: 23
Landscape: Basin
Elevation: 4,460 to 4,650

Precipitation: 8 to 16 inches
 Air temperature: 43 to 48 degrees Fahrenheit
 Frost-free period: 75 to 90 days

Composition

Four Star ashy loam, 0 to 2 percent slopes—85 percent
 Four Star ashy loam, 0 to 2 percent slopes—5 percent
 Husa ashy clay loam, 0 to 2 percent slopes—4 percent
 Husa ashy silty clay loam, 0 to 2 percent slopes—3 percent
 Histic Endoaquolls muck, cool, 0 to 2 percent slopes—2 percent
 Aquents muck, cool, 0 to 2 percent slopes—1 percent

Component Description

Four Star and similar soils

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 8 inches; ashy loam
 Layer 2—8 to 30 inches; ashy sandy loam
 Layer 3—30 to 60 inches; stratified ashy loamy sand to ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 11 inches
 Present flooding: Occasional
 Present ponding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w
 Nonirrigated land capability: 4w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Four Star and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Flood plains

Husa and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Husa and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Flood plains

Histic Endoaquolls and similar soils

Composition: 0 to 2 percent
 Classification: Ashy, glassy, frigid Histic Endoaquolls
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Sedge, tufted hairgrass, meadow barley, rush, bluegrass, other perennial grasses, other perennial forbs
 Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Aquents and similar soils

Composition: 0 to 1 percent
 Classification: Aquents
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Sedge, tufted hairgrass, meadow barley, rush, bluegrass, other perennial grasses, other perennial forbs
 Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

401—Four Star ashy loam, clay substratum

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,470 to 4,610
 Precipitation: 10 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 75 to 90 days

Composition

Four Star ashy loam, 0 to 2 percent slopes—90 percent
 Four Star ashy loam, 0 to 2 percent slopes—5 percent

Hussa ashy clay loam, 0 to 2 percent slopes—5 percent

Component Description

Four Star and similar soils

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 8 inches; ashy loam

Layer 2—8 to 30 inches; ashy fine sandy loam

Layer 3—30 to 40 inches; stratified ashy loamy sand to ashy silt loam

Layer 4—40 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 10 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 4w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Four Star and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Hussa and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

402—Four Star ashy loam, cold

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 6,000 to 6,170

Precipitation: 8 to 16 inches

Air temperature: 43 to 48 degrees Fahrenheit

Frost-free period: 75 to 90 days

Composition

Four Star ashy loam, cold, 0 to 2 percent slopes—95 percent

Hussa ashy silty clay loam, seeped, cold, 0 to 9 percent slopes—5 percent

Component Description

Four Star and similar soils

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 8 inches; ashy loam

Layer 2—8 to 30 inches; sandy loam

Layer 3—30 to 60 inches; stratified ashy loamy sand to ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 11 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 4w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Hussa and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 9 percent

Landform: Flood plains

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

403—Four Star ashy loam, seeped***Map Unit Setting***

MLRA: 23

Landscape: Basin

Elevation: 4,460 to 4,600

Precipitation: 8 to 16 inches

Air temperature: 43 to 48 degrees Fahrenheit

Frost-free period: 75 to 90 days

Composition

Four Star ashy loam, 0 to 2 percent slopes—90 percent

Four Star ashy loam, 0 to 2 percent slopes—4 percent

Hussa ashy clay loam, 0 to 2 percent slopes—3 percent

Hussa ashy clay loam, 0 to 2 percent slopes—3 percent

Component Description**Four Star and similar soils**

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 8 inches; ashy loam

Layer 2—8 to 30 inches; ashy fine sandy loam

Layer 3—30 to 60 inches; stratified ashy loamy sand to ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 11 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 6w

Nonirrigated land capability: 6w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Four Star and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Flood plains

Hussa and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Hussa and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

404—Freznik very stony loam, 2 to 15 percent slopes***Map Unit Setting***

MLRA: 23

Landscape: Plateau

Elevation: 5,400 to 5,800

Precipitation: 10 to 12 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 70 to 90 days

Composition

Freznik very stony loam, 2 to 15 percent slopes—85 percent
 Rock outcrop, 5 to 15 percent slopes—3 percent
 Carryback very cobbly loam, 2 to 15 percent slopes—2 percent
 Deseed silt loam, 2 to 15 percent slopes—2 percent
 Ferver very cobbly silt loam, 2 to 15 percent slopes—2 percent
 Floke very stony loam, 2 to 15 percent slopes—2 percent
 Rubble land, 30 to 50 percent slopes—2 percent
 Tunnison cobbly clay, 0 to 8 percent slopes—2 percent

Component Description**Freznik and similar soils**

Landform: Plateaus
 Slope: 2 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Low sagebrush, other perennial forbs, other perennial grasses, Webber needlegrass, Sandberg bluegrass

Typical profile:

Surface rock fragments: About 10 percent stones, 11 percent cobbles, 11 percent gravel
 Layer 1—0 to 3 inches; very stony loam
 Layer 2—3 to 25 inches; clay
 Layer 3—25 to 32 inches; clay loam
 Layer 4—32 to 36 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Rock outcrop**

Composition: 0 to 3 percent
 Slope: 5 to 15 percent
 Landform: Plateaus

Carryback and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 15 percent
 Landform: Plateaus
 Typical vegetation: Idaho fescue, Thurber's needlegrass, bluebunch wheatgrass, low sagebrush, Sandberg bluegrass
 Ecological site: R023XY216OR—Claypan

Deseed and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 15 percent
 Landform: Plateaus
 Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, Sandberg bluegrass, skyline bluegrass, Thurber's needlegrass
 Ecological site: R023XY220OR—Clayey

Ferver and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 15 percent
 Landform: Toeslopes of plateaus
 Typical vegetation: Webber needlegrass, Thurber's needlegrass, Sandberg bluegrass, low sagebrush, other perennial forbs, other perennial grasses, bluebunch wheatgrass, Canby bluegrass, Douglas rabbitbrush, other shrubs
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Floke and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 15 percent
 Landform: Plateaus
 Typical vegetation: Low sagebrush, Sandberg bluegrass, lomatium, bluebunch wheatgrass, lupine, balsamroot
 Ecological site: R023XY214OR—Claypan

Rubble land

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Plateaus

Tunnison and similar soils

Composition: 0 to 2 percent

Slope: 0 to 8 percent
 Landform: Depressions
 Typical vegetation: Other shrubs, bottlebrush squirreltail, Sandberg bluegrass, other perennial grasses, other perennial forbs, rubber rabbitbrush, low sagebrush
 Ecological site: R023XY001NV—Churning clay

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

405—Fulstone-Nellspring-Bufferan association

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 5,700 to 6,100
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 52 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Fulstone very gravelly sandy loam, 2 to 15 percent slopes—40 percent
 Nellspring very gravelly fine sandy loam, 2 to 15 percent slopes—25 percent
 Bufferan gravelly loam, 2 to 15 percent slopes—20 percent
 Abruptic Xeric Argidurids very gravelly fine sandy loam, 4 to 15 percent slopes—6 percent
 Aridic Haploxererts cobbly clay, 0 to 4 percent slopes—5 percent
 Aridic Haploxererts very cobbly clay, 0 to 4 percent slopes—3 percent
 Rock outcrop—1 percent

Component Description

Fulstone and similar soils

Landform: Summits of fan remnants
 Slope: 2 to 15 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Lahontan sagebrush, Webber needlegrass, Thurber's needlegrass, Indian ricegrass, other shrubs, other perennial forbs

Typical profile:

Layer 1—0 to 4 inches; very gravelly sandy loam
 Layer 2—4 to 16 inches; clay

Layer 3—16 to 26 inches; cemented material
 Layer 4—26 to 60 inches; extremely cobbly sandy loam
 See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Component Description

Nellspring and similar soils

Landform: Summits of fan remnants
 Slope: 2 to 15 percent
 Parent material: Alluvium derived from volcanic rocks
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, spiny hopsage, Sandberg bluegrass, other perennial grasses, other perennial forbs, Lahontan sagebrush, ephedra, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly fine sandy loam
 Layer 2—3 to 18 inches; clay
 Layer 3—18 to 35 inches; clay
 Layer 4—35 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY047NV—Gravelly clay 8-10 P.Z.

Component Description

Buffaran and similar soils

Landform: Shoulders of fan remnants
 Slope: 2 to 15 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 1 percent stones, 5 percent cobbles, 15 percent gravel
 Layer 1—0 to 2 inches; gravelly loam
 Layer 2—2 to 16 inches; gravelly clay loam
 Layer 3—16 to 27 inches; cemented material
 Layer 4—27 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Abrupt Xeric Argidurids and similar soils

Composition: 0 to 6 percent
 Classification: Clayey, smectitic, mesic, shallow Abrupt Xeric Argidurids
 Slope: 4 to 15 percent
 Landform: Summits of fan remnants
 Typical vegetation: Thurber's needlegrass, Webber needlegrass, other perennial forbs, bluegrass, low sagebrush
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Aridic Haploxererts and similar soils

Composition: 0 to 5 percent
 Classification: Fine, smectitic, mesic Aridic Haploxererts
 Slope: 0 to 4 percent
 Landform: Depressions
 Typical vegetation: Low sagebrush, Thurber's needlegrass, Webber needlegrass, other perennial forbs, bluegrass
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Aridic Haploxererts and similar soils

Composition: 0 to 3 percent
 Classification: Fine, smectitic, mesic Aridic Haploxererts
 Slope: 0 to 4 percent
 Landform: Depressions
 Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other shrubs, other perennial forbs, low sagebrush, Washoe rubber rabbitbrush
 Ecological site: R023XY001NV—Churning clay

Rock outcrop

Composition: 0 to 1 percent
 Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

406—Fulstone-Saraph-Tuffo association

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 5,790 to 6,110
 Precipitation: 8 to 12 inches
 Air temperature: 43 to 52 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Fulstone very gravelly sandy loam, 2 to 15 percent slopes—35 percent
 Saraph very gravelly ashy sandy loam, 4 to 30 percent slopes—30 percent
 Tuffo very gravelly ashy sandy loam, 15 to 50 percent slopes—20 percent

Argidic Argidurids very gravelly sandy loam, 4 to 15 percent slopes—5 percent

Ceejay very gravelly sandy loam, 4 to 15 percent slopes—5 percent

Vitrixerandic Haplargids ashy sandy loam, 0 to 4 percent slopes—5 percent

Component Description

Fulstone and similar soils

Landform: Summits of fan remnants

Slope: 2 to 15 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Indian ricegrass, Webber needlegrass, other perennial forbs, Thurber's needlegrass, Lahontan sagebrush, other shrubs

Typical profile:

Layer 1—0 to 4 inches; very gravelly sandy loam

Layer 2—4 to 16 inches; clay

Layer 3—16 to 26 inches; cemented material

Layer 4—26 to 60 inches; extremely cobbly sandy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Component Description

Saraph and similar soils

Landform: Backslopes of rock pediments

Slope: 4 to 30 percent

Parent material: Residuum derived from tuffaceous rocks

Typical vegetation: Wyoming big sagebrush, other perennial grasses, Indian ricegrass, Thurber's needlegrass, other shrubs, other perennial forbs

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam

Layer 2—4 to 9 inches; ashy sandy clay loam

Layer 3—9 to 16 inches; ashy clay loam

Layer 4—16 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Tuffo and similar soils

Landform: Backslopes of ash flows

Slope: 15 to 50 percent

Parent material: Residuum derived from tuffaceous rocks

Typical vegetation: Indian ricegrass, other perennial grasses, Wyoming big sagebrush, other shrubs, other perennial forbs, bottlebrush squirreltail

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam

Layer 2—1 to 8 inches; gravelly ashy sandy loam

Layer 3—8 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.1 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Argidic Argidurids and similar soils

Composition: 0 to 5 percent

Classification: Loamy, mixed, superactive, mesic, shallow Argidic Argidurids

Slope: 4 to 15 percent

Landform: Fan remnants

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Ceejay and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Backslopes of hills

Typical vegetation: Lahontan sagebrush, other perennial forbs, other shrubs, Webber needlegrass, Thurber's needlegrass, Indian ricegrass

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Vitrixerandic Haplargids and similar soils

Composition: 0 to 5 percent

Classification: Ashy, glassy, mesic Vitrixerandic Haplargids

Slope: 0 to 4 percent

Landform: Fan aprons

Typical vegetation: Needlegrass, big sagebrush, basin wildrye, other perennial grasses, bluegrass

Ecological site: R023XY082NV—Loamy fan 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

407—Gorzell-Old Camp association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,660 to 5,720

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Gorzell very gravelly sandy loam, 4 to 15 percent slopes—55 percent

Old Camp very stony sandy loam, 8 to 30 percent slopes—30 percent

Reywat very stony loam, 15 to 30 percent slopes—8 percent

Couch ashy fine sandy loam, 2 to 4 percent slopes—7 percent

Component Description

Gorzell and similar soils

Landform: Beach terraces

Slope: 4 to 15 percent

Parent material: Alluvium derived from mixed-igneous & sedimentary rocks

Typical vegetation: Other perennial grasses, Wyoming big sagebrush, other shrubs, other perennial forbs, Indian ricegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 8 inches; very gravelly sandy loam

Layer 2—8 to 12 inches; gravelly clay loam

Layer 3—12 to 30 inches; gravelly clay loam

Layer 4—30 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Old Camp and similar soils

Landform: Backslopes of plateaus

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 2 inches; very stony sandy loam
 Layer 2—2 to 14 inches; extremely stony clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Reywat and similar soils

Composition: 0 to 8 percent
 Slope: 15 to 30 percent, northwest to northeast aspects
 Landform: Northwest to northeast aspects on backslopes of plateaus
 Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Couch and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 4 percent
 Landform: Summits of lake terraces

Typical vegetation: Bottlebrush squirreltail, basin wildrye, other perennial grasses, other perennial forbs, big

sagebrush, black greasewood, other shrubs, spiny hopsage
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

408—Gorzell-Saraph association

Map Unit Setting

MLRA: 23
 Landscape: Bolson
 Elevation: 4,580 to 5,750
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Gorzell very gravelly sandy loam, 4 to 8 percent slopes—50 percent
 Saraph very gravelly ashy sandy loam, 4 to 15 percent slopes—35 percent
 Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—8 percent
 Jesayno ashy silt loam, 0 to 2 percent slopes—4 percent
 Zorravista fine sand, 4 to 15 percent slopes—3 percent

Component Description

Gorzell and similar soils

Landform: Beach terraces
 Slope: 4 to 8 percent
 Parent material: Alluvium derived from mixed-igneous & sedimentary rocks
 Typical vegetation: Other perennial forbs, other perennial grasses, Wyoming big sagebrush, Indian ricegrass, other shrubs, Thurber's needlegrass

Typical profile:

Layer 1—0 to 8 inches; very gravelly sandy loam
 Layer 2—8 to 12 inches; gravelly clay loam
 Layer 3—12 to 30 inches; gravelly clay loam
 Layer 4—30 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description**Saraph and similar soils**

Landform: Summits of rock pediments
 Slope: 4 to 15 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam
 Layer 2—4 to 9 inches; ashy sandy loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Nevadash and similar soils**

Composition: 0 to 8 percent
 Slope: 2 to 4 percent
 Landform: Fan aprons, lake plains
 Typical vegetation: Thickspike wheatgrass, big sagebrush, other shrubs, spiny hopsage, basin wildrye, other perennial forbs
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Jesayno and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Nevada bluegrass, basin big sagebrush, other perennial forbs, basin wildrye, western wheatgrass
 Ecological site: R023XY005NV—Dry floodplain

Zorravista and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Dunes
 Typical vegetation: Basin big sagebrush, fourwing saltbush, spiny hopsage, other shrubs, Indian ricegrass, basin wildrye, other perennial forbs
 Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

409—Grassy can association**Map Unit Setting**

MLRA: 23
 Landscape: Plateau
 Elevation: 5,460 to 6,130
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Grassy can very stony fine sandy loam, 2 to 15 percent slopes—45 percent

Grassy can extremely stony fine sandy loam, 0 to 8 percent slopes—40 percent
 Ceejay very stony fine sandy loam, 4 to 15 percent slopes—6 percent
 Bombadil stony sandy loam, 4 to 15 percent slopes—4 percent
 Devada very stony loam, 4 to 15 percent slopes—3 percent
 Rock outcrop—2 percent

Component Description

Grassy can and similar soils

Landform: Summits of plateaus
 Slope: 2 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Low sagebrush, bluegrass, other perennial forbs, Webber needlegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones, 5 percent cobbles, 28 percent gravel
 Layer 1—0 to 4 inches; very stony fine sandy loam
 Layer 2—4 to 12 inches; clay
 Layer 3—12 to 13 inches; cemented material
 Layer 4—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 7 to 14 inches
 Bedrock (lithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Component Description

Grassy can and similar soils

Landform: Summits of plateaus
 Slope: 0 to 8 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Other perennial grasses, other perennial forbs, Webber needlegrass, low sagebrush, Sandberg bluegrass

Typical profile:

Surface rock fragments: About 20 percent stones, 8 percent cobbles, 34 percent gravel
 Layer 1—0 to 4 inches; extremely stony fine sandy loam
 Layer 2—4 to 12 inches; clay
 Layer 3—12 to 13 inches; cemented material
 Layer 4—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Duripan: 7 to 14 inches
 Bedrock (lithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 1.6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ceejay and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 15 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Webber needlegrass, Indian ricegrass, Thurber's needlegrass, Lahontan sagebrush, other perennial forbs, other shrubs
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Bombadil and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Summits of plateaus
 Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Indian ricegrass, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Devada and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Summits of plateaus

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

410—Grassy can-Rock outcrop complex, 0 to 8 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,140 to 6,170

Precipitation: 8 to 10 inches

Air temperature: 45 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Grassy can extremely stony fine sandy loam, 0 to 8 percent slopes—70 percent

Rock outcrop—15 percent

Devada very stony loam, 4 to 8 percent slopes—6 percent

Tunnison cobbly clay, 0 to 4 percent slopes—5 percent

Grassy can very gravelly fine sandy loam, 2 to 8 percent slopes—2 percent

Tuledad extremely cobbly loam, 2 to 4 percent slopes—2 percent

Component Description

Grassy can and similar soils

Landform: Summits of plateaus

Slope: 0 to 8 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Webber needlegrass, low sagebrush, Sandberg bluegrass, other perennial forbs, other perennial grasses

Typical profile:

Surface rock fragments: About 18 percent stones

Layer 1—0 to 4 inches; extremely stony fine sandy loam

Layer 2—4 to 12 inches; clay

Layer 3—12 to 13 inches; cemented material

Layer 4—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Duripan: 7 to 14 inches

Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 1.6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Component Description

Rock outcrop

Landform: Plateaus

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 6 percent

Slope: 4 to 8 percent

Landform: Backslopes of plateaus

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Tunnison and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Plateaus

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, other perennial forbs, other shrubs, low sagebrush, Washoe rubber rabbitbrush

Ecological site: R023XY001NV—Churning clay

Grassy can and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Summits of plateaus

Typical vegetation: Thurber's needlegrass, Webber needlegrass, other perennial forbs, bluegrass, low sagebrush

Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Tuledad and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Shoulders of plateaus

Typical vegetation: Thurber's needlegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, low sagebrush

Ecological site: R023XY044NV—Very cobbly claypan

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

411—Gurlidawg extremely gravelly ashy sandy loam, 4 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 7,270 to 7,860

Precipitation: 20 to 40 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Gurlidawg extremely gravelly ashy sandy loam, cool, 4 to 30 percent slopes—85 percent

Lotawaca very gravelly ashy sandy loam, cool, 4 to 30 percent slopes—5 percent

Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—3 percent

Pyropatti gravelly ashy loam, cool, 2 to 30 percent slopes—3 percent

Rock outcrop, 30 to 75 percent slopes—3 percent

Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1 percent

Component Description

Gurlidawg and similar soils

Landform: Mountain slopes

Slope: 4 to 30 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Forest canopy—lodgepole pine
Forest understory—pinemat manzanita, lodgepole pine, western white pine, other perennial forbs, other shrubs, western needlegrass, Ross' sedge, bluegrass
Site index: Lodgepole pine—50 at an age base of 100 years

Typical profile:

Surface rock fragments: About 35 percent gravel, 1 percent stones, 1 percent boulders, 10 percent cobbles

Oi—0 to 1 inches; very gravelly moderately decomposed plant material

Layer 1—1 to 6 inches; extremely gravelly ashy sandy loam

Layer 2—6 to 30 inches; extremely gravelly ashy sandy loam

Layer 3—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: F021XE232CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lotawaca and similar soils

Composition: 0 to 5 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir
Forest understory—Ross' sedge, western needlegrass, white fir, other annual forbs, Wheeler bluegrass,

other perennial forbs, other shrubs, western white pine, sticky currant
 Ecological site: F021XE239CA

Paynepeak and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial grasses, other perennial forbs, roundleaf snowberry, bluegrass, needlegrass, mountain brome, other shrubs, mountain big sagebrush
 Ecological site: R021XE222CA—Loamy slope

Pyropatti and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—roundleaf snowberry, slender wheatgrass, other perennial grasses, mountain brome, other perennial forbs, mountain big sagebrush, quaking aspen
 Ecological site: F021XE233CA

Rock outcrop

Composition: 0 to 3 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of escarpments

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy Histic Cryaquolls
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Sedge, other perennial forbs, other perennial grasses, rush, tufted hairgrass
 Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

412—Gurlidawg very gravelly ashy sandy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains
 Elevation: 6,540 to 8,140
 Precipitation: 20 to 40 inches
 Air temperature: 37 to 45 degrees Fahrenheit
 Frost-free period: 30 to 60 days

Composition

Gurlidawg very gravelly ashy sandy loam, cool, 30 to 50 percent slopes—85 percent
 Lotawaca very gravelly ashy sandy loam, cool, 30 to 50 percent slopes—3 percent
 Paynepeak gravelly ashy loam, cool, 15 to 50 percent slopes—3 percent
 Dawgbuffer very gravelly ashy sandy loam, 15 to 50 percent slopes—2 percent
 Gurlidawg very gravelly ashy sandy loam, cool, 30 to 50 percent slopes—2 percent
 Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—2 percent
 Rock outcrop, 30 to 75 percent slopes—2 percent
 Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1 percent

Component Description

Gurlidawg and similar soils

Landform: Mountain slopes
 Slope: 30 to 50 percent
 Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Forest canopy—lodgepole pine
 Forest understory—bluegrass, other shrubs, Ross' sedge, western needlegrass, other perennial forbs, pinemat manzanita, lodgepole pine, western white pine
 Site index: Lodgepole pine—50 at an age base of 100 years

Typical profile:

Surface rock fragments: About 35 percent gravel, 10 percent cobbles, 1 percent stones, 1 percent boulders
 Oi—0 to 1 inches; very gravelly moderately decomposed plant material
 Layer 1—1 to 6 inches; very gravelly ashy sandy loam
 Layer 2—6 to 30 inches; extremely gravelly ashy sandy loam
 Layer 3—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: F021XE232CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Lotawaca and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—other perennial forbs, other annual forbs, western needlegrass, Ross' sedge, Wheeler bluegrass, sticky currant, white fir, other shrubs, western white pine

Ecological site: F021XE239CA

Paynepeak and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Other perennial grasses, needlegrass, mountain brome, bluegrass, roundleaf snowberry, other perennial forbs, mountain big sagebrush, other shrubs

Ecological site: R021XE222CA—Loamy slope

Dawgbuffer and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, curl-leaf mountain mahogany, other trees, needlegrass, mountain brome, bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush

Ecological site: R021XE210CA—Mahogany Savanna

Gurlidawg cool and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—whitebark pine Forest understory—other perennial forbs, western needlegrass, California needlegrass, Ross' sedge, other perennial grasses, other shrubs, whitebark pine, gooseberry currant

Ecological site: F021XE235CA

Pyropatti and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen Forest understory—mountain brome, slender wheatgrass, other perennial grasses, other perennial forbs, roundleaf snowberry, quaking aspen, mountain big sagebrush

Ecological site: F021XE233CA

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Rush, tufted hairgrass, sedge, other perennial forbs, other perennial grasses

Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

413—Gurlidawg very gravelly ashy sandy loam, 4 to 30 percent slopes***Map Unit Setting***

MLRA: 21

Landscape: Mountains

Elevation: 6,890 to 8,430

Precipitation: 20 to 40 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30 percent slopes—85 percent
 Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30 percent slopes—5 percent
 Lotawaca very gravelly ashy sandy loam, cool, 4 to 30 percent slopes—2 percent
 Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—2 percent
 Pyropatti gravelly ashy loam, cool, 2 to 30 percent slopes—2 percent
 Rock outcrop, 30 to 75 percent slopes—2 percent
 Vitrandic Cryorthents very gravelly ashy sandy loam, 4 to 30 percent slopes—2 percent

Component Description

Gurlidawg and similar soils

Landform: Mountain slopes
 Slope: 4 to 30 percent
 Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Forest canopy—lodgepole pine
 Forest understory—western needlegrass, Ross' sedge, bluegrass, pinemat manzanita, lodgepole pine, western white pine, other perennial forbs, other shrubs
 Site index: Lodgepole pine—50 at an age base of 100 years

Typical profile:

Surface rock fragments: About 35 percent gravel, 10 percent cobbles, 1 percent stones, 1 percent boulders
 Oi—0 to 1 inches; very gravelly moderately decomposed plant material
 Layer 1—1 to 6 inches; very gravelly ashy sandy loam
 Layer 2—6 to 30 inches; extremely gravelly ashy sandy loam
 Layer 3—30 to 40 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: F021XE232CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Gurlidawg cool and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—whitebark pine
 Forest understory—western needlegrass, other perennial grasses, other perennial forbs, whitebark pine, Ross' sedge, gooseberry currant, California needlegrass, other shrubs
 Ecological site: F021XE235CA

Lotawaca and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—white fir
 Forest understory—sticky currant, Wheeler bluegrass, other perennial forbs, other annual forbs, western needlegrass, Ross' sedge, western white pine, other shrubs, white fir
 Ecological site: F021XE239CA

Paynepeak and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, other shrubs, mountain big sagebrush, other perennial grasses, roundleaf snowberry, needlegrass, mountain brome, bluegrass
 Ecological site: R021XE222CA—Loamy slope

Pyropatti and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—mountain brome, slender wheatgrass, other perennial grasses, other perennial forbs, mountain big sagebrush, quaking aspen, roundleaf snowberry

Ecological site: F021XE233CA

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Vitrandic Cryorthents and similar soils

Composition: 0 to 2 percent

Classification: Ashy-skeletal, glassy Vitrandic
Cryorthents

Slope: 4 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, roundleaf
snowberry, other shrubs, other perennial grasses,
bluegrass, mountain brome, other perennial forbs,
needlegrass

Ecological site: R021XE222CA—Loamy slope

Management

For information about managing this map unit, see the
following sections and associated tables in this
publication:

"Range" section

"Engineering" and "Soil Properties" sections

414—Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 7,120 to 8,800

Precipitation: 20 to 40 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30
percent slopes—85 percent

Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30
percent slopes—5 percent

Paynepeak gravelly ashy loam, cool, 4 to 30 percent
slopes—4 percent

Gurlidawg very gravelly ashy sandy loam, cool, 30 to 50
percent slopes—2 percent

Pyropatti gravelly ashy loam, cool, 2 to 30 percent
slopes—2 percent

Rock outcrop, 30 to 75 percent slopes—1 percent

Vitrandic Cryorthents very gravelly ashy sandy loam, 4
to 30 percent slopes—1 percent

Component Description

Gurlidawg and similar soils

Landform: Mountain slopes

Slope: 4 to 30 percent

Parent material: Volcanic ash, colluvium derived from
pyroclastic rock and residuum weathered from
pyroclastic rock

Typical vegetation: Forest canopy—whitebark pine

Forest understory—western needlegrass, other
shrubs, gooseberry currant, California needlegrass,
Ross' sedge, other perennial grasses, other perennial
forbs, whitebark pine

Typical profile:

Surface rock fragments: About 35 percent gravel, 10
percent cobbles, 1 percent stones, 1 percent
boulders

Oi—0 to 1 inches; very gravelly moderately decomposed
plant material

Layer 1—1 to 6 inches; very gravelly ashy sandy loam
Layer 2—6 to 30 inches; extremely gravelly ashy sandy
loam

Layer 3—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40
inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: F021XE235CA

Typical soil descriptions including ranges in
characteristics are in the "Classification of the Soils"
section.

Contrasting Inclusions

Gurlidawg cool and similar soils

Composition: 0 to 5 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—lodgepole pine
Forest understory—Ross' sedge, western

needlegrass, other perennial forbs, bluegrass, lodgepole pine, western white pine, other shrubs, pinemat manzanita

Ecological site: F021XE232CA

Paynepeak and similar soils

Composition: 0 to 4 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, needlegrass, mountain brome, bluegrass, other perennial grasses, mountain big sagebrush, other shrubs, roundleaf snowberry

Ecological site: R021XE222CA—Loamy slope

Gurlidawg and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—whitebark pine
Forest understory—western needlegrass, California needlegrass, Ross' sedge, other perennial grasses, other perennial forbs, other shrubs, gooseberry currant, whitebark pine

Ecological site: F021XE235CA

Pyropatti and similar soils

Composition: 0 to 2 percent

Slope: 2 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen
Forest understory—roundleaf snowberry, quaking aspen, mountain big sagebrush, other perennial forbs, other perennial grasses, slender wheatgrass, mountain brome

Ecological site: F021XE233CA

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Vitrantic Cryorthents and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy Vitrantic Cryorthents

Slope: 4 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Needlegrass, mountain brome, roundleaf snowberry, other shrubs, mountain big sagebrush, other perennial forbs, bluegrass, other perennial grasses

Ecological site: R021XE222CA—Loamy slope

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

415—Halvert-Jaybee-Tunnison association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,240 to 6,160

Precipitation: 8 to 13 inches

Air temperature: 44 to 50 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Halvert gravelly loam, 0 to 8 percent slopes—40 percent
Jaybee very cobbly loam, 2 to 8 percent slopes—30 percent

Tunnison cobbly clay, 0 to 4 percent slopes—15 percent
Bucklake very gravelly loam, 2 to 8 percent slopes—6 percent

Schamp clay loam, 0 to 2 percent slopes—6 percent

Fiddler very cobbly loam, 4 to 15 percent slopes—2 percent

Boulder Lake silty clay, 0 to 2 percent slopes—1 percent

Component Description

Halvert and similar soils

Landform: Plateaus

Slope: 0 to 8 percent

Parent material: Alluvium and colluvium derived from volcanic rocks

Typical vegetation: Lahontan sagebrush, Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs

Typical profile:

Surface rock fragments: About 1 percent stones, 5 percent cobbles, 22 percent gravel

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 5 inches; gravelly clay loam

Layer 3—5 to 27 inches; gravelly clay

Layer 4—27 to 32 inches; cemented material

Layer 5—32 to 42 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Duripan: 20 to 32 inches

Bedrock (paralithic): 24 to 40 inches

Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Jaybee and similar soils

Landform: Plateaus

Slope: 2 to 8 percent

Parent material: Colluvium derived from volcanic rock
and/or residuum weathered from volcanic rock

Typical vegetation: Indian ricegrass, Thurber's
needlegrass, bottlebrush squirreltail, Sandberg
bluegrass, other perennial grasses, other perennial
forbs, Lahontan sagebrush, ephedra, other shrubs,
spiny hopsage

Typical profile:

Surface rock fragments: About 1 percent stones, 31
percent cobbles, 18 percent gravel

Layer 1—0 to 4 inches; very cobbly loam

Layer 2—4 to 14 inches; gravelly clay

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 7 to 14
inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY047NV—Gravelly clay 8-10 P.Z.

Component Description

Tunnison and similar soils

Landform: Plateaus

Slope: 0 to 4 percent

Parent material: Colluvium and/or residuum weathered
from volcanic rock

Typical vegetation: Low sagebrush, Washoe rubber
rabbitbrush, other shrubs, Sandberg bluegrass,
bottlebrush squirreltail, other perennial forbs

Typical profile:

Surface rock fragments: About 17 percent cobbles, 7
percent gravel

Layer 1—0 to 2 inches; cobbly clay

Layer 2—2 to 27 inches; clay

Layer 3—27 to 30 inches; bedrock

Layer 4—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 20 to 35
inches Bedrock (lithic): 30 to 40 inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY001NV—Churning clay

Typical soil descriptions including ranges in
characteristics are in the "Classification of the Soils"
section.

Contrasting Inclusions

Bucklake and similar soils

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Plateaus

Typical vegetation: Thurber's needlegrass, basin wildrye,
Wyoming big sagebrush, antelope bitterbrush,
bluebunch wheatgrass

Ecological site: R023XY039NV—Loamy slope 10-14
P.Z.

Schamp and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Wyoming big sagebrush, other perennial grasses, Indian ricegrass, Thurber's needlegrass, other perennial forbs, other shrubs

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Fiddler and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Shoulders of plateaus

Typical vegetation: Forest canopy—western juniper

Forest understory—arrowleaf balsamroot, rabbitbrush, Idaho fescue, Nevada bluegrass, antelope bitterbrush, bottlebrush squirreltail, Thurber's needlegrass, bluebunch wheatgrass

Ecological site: F023XY024NV

Boulder Lake and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Depressions

Typical vegetation: Silver sagebrush, other perennial forbs, Nevada bluegrass, mat muhly, wildrye

Ecological site: R023XY003NV—Clay basin

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

416—Hangrock very gravelly ashy loam, 2 to 8 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Fan piedmont

Elevation: 5,270 to 6,120

Precipitation: 9 to 11 inches

Air temperature: 45 to 47 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Hangrock very gravelly ashy loam, 2 to 8 percent slopes—85 percent

Saraph very gravelly ashy sandy loam, 8 to 30 percent slopes—6 percent

Tuffo very gravelly ashy sandy loam, 8 to 30 percent slopes—6 percent

Chalco very gravelly loam, 8 to 15 percent slopes—3 percent

Component Description

Hangrock and similar soils

Landform: Fan remnants

Slope: 2 to 8 percent

Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Other shrubs, Wyoming big sagebrush, Thurber's needlegrass, other perennial forbs, Indian ricegrass, other perennial grasses

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy loam

Layer 2—4 to 17 inches; gravelly ashy clay loam

Layer 3—17 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Saraph and similar soils

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Summits of rock pediments

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Tuffo and similar soils

Composition: 0 to 6 percent

Slope: 8 to 30 percent

Landform: Backslopes of ash flows

Typical vegetation: Other perennial grasses, Wyoming big sagebrush, other perennial forbs, bottlebrush squirreltail, Indian ricegrass, other shrubs

Ecological site: R023XY088NV—Chalky knoll

Chalco and similar soils

Composition: 0 to 3 percent

Slope: 8 to 15 percent

Landform: Pediments

Typical vegetation: Lahontan sagebrush, Indian ricegrass, Thurber's needlegrass, Webber needlegrass, other shrubs, other perennial forbs

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

417—Harskel-Brownsbowl-Cowbell association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,690 to 6,670

Precipitation: 10 to 18 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Harskel extremely cobbly ashy loam, 8 to 30 percent slopes—40 percent

Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—30 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—15 percent

Nutzan very gravelly ashy sandy loam, 8 to 15 percent slopes—6 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—4 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—3 percent

Hashwoods ashy fine sandy loam, 4 to 15 percent slopes—2 percent

Component Description**Harskel and similar soils**

Landform: Plateaus

Slope: 8 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, other perennial forbs, antelope bitterbrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 3 inches; extremely cobbly ashy loam

Layer 2—3 to 8 inches; very cobbly ashy loam

Layer 3—8 to 19 inches; extremely cobbly ashy loam

Layer 4—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description**Brownsbowl and similar soils**

Landform: Northeast to northwest aspects on plateaus

Slope: 8 to 15 percent, northeast to northwest aspects

Parent material: Volcanic ash and colluvium derived from andesite

Typical vegetation: Mountain big sagebrush, other perennial forbs, melic, mountain brome, needlegrass, Idaho fescue, other shrubs

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam

Layer 2—10 to 28 inches; gravelly ashy sandy loam

Layer 3—28 to 34 inches; cobbly ashy sandy loam

Layer 4—34 to 41 inches; very cobbly ashy sandy loam

Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High,
(Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Component Description

Cowbell and similar soils

Landform: East to west aspects on backslopes of plateaus

Slope: 4 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, curleaf mountainmahogany, mountain big sagebrush, Cusick's bluegrass, bluebunch wheatgrass, Idaho fescue

Typical profile:

Surface rock fragments: About 8 percent stones

Layer 1—0 to 3 inches; extremely cobbly ashy mucky sandy loam

Layer 2—3 to 9 inches; extremely cobbly ashy loam

Layer 3—9 to 40 inches; very cobbly ashy sandy clay loam

Layer 4—40 to 60 inches; very gravelly ashy sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY026NV—Mahogany Savanna
Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nutzan and similar soils

Composition: 0 to 6 percent

Slope: 8 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Mountain big sagebrush, other perennial forbs, other perennial grasses, other shrubs, antelope bitterbrush, Idaho fescue, needlegrass

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Hutchley and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent, north aspect

Landform: North facing summits of plateaus

Typical vegetation: Antelope bitterbrush, needlegrass, mountain big sagebrush, Idaho fescue, basin wildrye, other perennial forbs, bluebunch wheatgrass

Ecological site: R023XY008NV—Mountain ridge

Snag and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Ground moraines

Typical vegetation: Bluegrass, snowberry, Idaho fescue, basin wildrye, needlegrass, mountain brome, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs

Ecological site: R023XY019NV—Loamy 16+ P.Z.

Hashwoods and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on plateaus

Typical vegetation: Forest canopy—quaking aspen

Forest understory—mountain brome, slender wheatgrass, Nevada bluegrass, other perennial grasses, quaking aspen, snowberry, other shrubs, other perennial forbs

Ecological site: F023XY028NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description

Menbo and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Residuum and colluvium derived from tuffaceous rocks

Typical vegetation: Idaho fescue, needlegrass, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Typical profile:

Layer 1—0 to 6 inches; very cobbly loam

Layer 2—6 to 26 inches; very cobbly clay

Layer 3—26 to 36 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cowbell and similar soils

Composition: 0 to 5 percent

Slope: 4 to 30 percent, east to west aspects

Landform: East to west aspects on backslopes of plateaus

Typical vegetation: Needlegrass, curleaf mountainmahogany, mountain big sagebrush, Cusick's bluegrass, bluebunch wheatgrass, Idaho fescue

Ecological site: R023XY026NV—Mahogany Savanna

418—Harskel-Menbo association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,820 to 6,930

Precipitation: 10 to 16 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Harskel extremely cobbly ashy loam, 8 to 30 percent slopes—60 percent

Menbo very cobbly loam, 4 to 15 percent slopes—30 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—5 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—3 percent

Hart Camp stony loam, 8 to 30 percent slopes—2 percent

Component Description

Harskel and similar soils

Landform: Plateaus

Slope: 8 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Mountain big sagebrush, other perennial forbs, antelope bitterbrush, needlegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 3 inches; extremely cobbly ashy loam

Layer 2—3 to 8 inches; very cobbly ashy loam

Layer 3—8 to 19 inches; extremely cobbly ashy loam

Layer 4—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Snag and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Ground moraines

Typical vegetation: Basin wildrye, bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs, snowberry, Idaho fescue, mountain brome, needlegrass

Ecological site: R023XY019NV—Loamy 16+ P.Z.

Hart Camp and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Plateaus

Typical vegetation: Antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, needlegrass, mountain big sagebrush

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

419—Harskel-Ninemile-Cowbell association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,310 to 6,620

Precipitation: 10 to 18 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Harskel extremely cobbly ashy loam, 8 to 30 percent slopes—40 percent

Ninemile very cobbly loam, 4 to 15 percent slopes—30 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—15 percent

Nutzan very gravelly ashy sandy loam, 8 to 15 percent slopes—6 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—4 percent

Ashtre very gravelly ashy loam, 15 to 30 percent slopes—3 percent

Crocac extremely stony loam, 2 to 15 percent slopes—2 percent

Component Description

Harskel and similar soils

Landform: Plateaus

Slope: 8 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, other perennial forbs, antelope bitterbrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 3 inches; extremely cobbly ashy loam

Layer 2—3 to 8 inches; very cobbly ashy loam

Layer 3—8 to 19 inches; extremely cobbly ashy loam

Layer 4—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description

Ninemile and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, low sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 19 inches; gravelly clay

Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description

Cowbell and similar soils

Landform: East to west aspects on backslopes of plateaus

Slope: 4 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curleaf mountainmahogany

Typical profile:

Surface rock fragments: About 8 percent stones

Layer 1—0 to 3 inches; extremely cobbly ashy mucky sandy loam

Layer 2—3 to 9 inches; extremely cobbly ashy loam

Layer 3—9 to 40 inches; very cobbly ashy sandy clay loam

Layer 4—40 to 60 inches; very gravelly ashy sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY026NV—Mahogany Savanna

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nutzan and similar soils

Composition: 0 to 6 percent

Slope: 8 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Needlegrass, Idaho fescue, other perennial grasses, other perennial forbs, mountain big sagebrush, antelope bitterbrush, other shrubs

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Hutchley and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent, north aspect

Landform: North facing summits of plateaus

Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, basin wildrye, Idaho fescue, needlegrass, mountain big sagebrush

Ecological site: R023XY008NV—Mountain ridge

Ashtre and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Backslopes of ash flows

Typical vegetation: Needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Crocán and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Plateau rims

Typical vegetation: Forest canopy—western juniper

Forest understory—Idaho fescue, bluebunch wheatgrass, Thurber's needlegrass, western needlegrass, Canby bluegrass, low sagebrush, other perennial grasses, other perennial forbs, other shrubs, other trees

Ecological site: F023XY095NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section

"Forest land" section
 "Engineering" and "Soil Properties" sections

420—Hart Camp-Menbo association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,780 to 6,600
 Precipitation: 10 to 16 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 50 to 90 days

Composition

Hart Camp stony loam, 4 to 15 percent slopes—60 percent
 Menbo cobbly loam, 15 to 50 percent slopes—30 percent
 Softscrabble very stony loam, 15 to 50 percent slopes—5 percent
 Hart Camp stony loam, moist, 2 to 8 percent slopes—3 percent
 Crocan extremely stony loam, 2 to 8 percent slopes—1 percent
 Vitritorrandic Argixerolls gravelly ashy sandy loam, 2 to 4 percent slopes—1 percent

Component Description

Hart Camp and similar soils

Landform: Plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, other perennial forbs, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 3 inches; stony loam
 Layer 2—3 to 13 inches; gravelly sandy clay loam
 Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description

Menbo and similar soils

Landform: Plateaus
 Slope: 15 to 50 percent
 Parent material: Residuum and colluvium derived from tuffaceous rocks
 Typical vegetation: Basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, needlegrass, Idaho fescue

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 6 inches; cobbly loam
 Layer 2—6 to 26 inches; very cobbly clay
 Layer 3—26 to 36 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Softscrabble and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Needlegrass, basin wildrye, other perennial forbs, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Hart Camp moist and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Plateaus

Typical vegetation: Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, needlegrass

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Crocán and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Plateau rims

Typical vegetation: Forest canopy—western juniper
Forest understory—Idaho fescue, bluebunch wheatgrass, Thurber's needlegrass, Canby bluegrass, low sagebrush, other perennial forbs, other shrubs, other trees, western needlegrass, other perennial grasses

Ecological site: F023XY095NV

Vitrorrandic Argixerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy, frigid Vitrorrandic Argixerolls

Slope: 2 to 4 percent

Landform: Backslopes of ash flows

Typical vegetation: Nevada bluegrass, sedge, other perennial grasses, other perennial forbs

Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

421—Hart Camp-Ninemile association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,990 to 6,960

Precipitation: 10 to 16 inches

Air temperature: 43 to 46 degrees Fahrenheit

Frost-free period: 50 to 100 days

Composition

Hart Camp gravelly loam, 4 to 30 percent slopes—60 percent

Ninemile very gravelly loam, 4 to 30 percent slopes—25 percent

Tusune gravelly ashy loam, 30 to 50 percent slopes—6 percent

Hartig very stony sandy loam, 30 to 50 percent slopes—5 percent

Lithic Argixerolls very gravelly loam, 4 to 15 percent slopes—2 percent

Vitrandic Haplocryolls ashy sandy loam, 4 to 15 percent slopes—2 percent

Component Description

Hart Camp and similar soils

Landform: Summits of plateaus

Slope: 4 to 30 percent

Parent material: Residuum weathered from tuff

Typical vegetation: Antelope bitterbrush, needlegrass, bluebunch wheatgrass, mountain big sagebrush, other perennial forbs

Typical profile:

Surface rock fragments: About 2 percent stones, 5 percent cobbles, 15 percent gravel

Layer 1—0 to 3 inches; gravelly loam

Layer 2—3 to 16 inches; gravelly clay loam

Layer 3—16 to 26 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description**Ninemile and similar soils**

Landform: Summits of plateaus

Slope: 4 to 30 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, Thurber's needlegrass, bluebunch wheatgrass, other perennial grasses, Idaho fescue, bluegrass, low sagebrush, other perennial forbs

Typical profile:

Layer 1—0 to 7 inches; very gravelly loam

Layer 2—7 to 19 inches; gravelly clay

Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Tusune and similar soils**

Composition: 0 to 6 percent

Slope: 30 to 50 percent, northwest to east aspects

Landform: Northwest to east aspects on footslopes of plateaus

Typical vegetation: Idaho fescue, Cusick's bluegrass, mountain big sagebrush, bluebunch wheatgrass, other perennial forbs, other shrubs

Ecological site: R023XY054NV—Steep north slope

Hartig and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, southeast to west aspects

Landform: Southeast to west aspects on backslopes of plateaus

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, mountain big sagebrush

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Lithic Argixerolls and similar soils

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls

Slope: 4 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Other perennial forbs, basin wildrye, needlegrass, mountain big sagebrush, Idaho fescue, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R023XY008NV—Mountain ridge

Vitrandic Haplocryolls and similar soils

Composition: 0 to 2 percent

Classification: Ashy, glassy Vitrandic Haplocryolls

Slope: 4 to 15 percent

Landform: Inset fans

Typical vegetation: Mountain big sagebrush, needlegrass, Idaho fescue, Cusick's bluegrass, other perennial forbs, other perennial grasses

Ecological site: R023XY084NV—Deep loamy 14-16 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

422—Hart Camp-Runyon-Ashtre association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 6,170 to 6,670

Precipitation: 10 to 16 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 60 to 90 days

Composition

Hart Camp stony loam, moist, 4 to 15 percent slopes—50 percent

Runyon cobbly loam, 8 to 15 percent slopes—25 percent

Ashtre very gravelly ashy loam, 2 to 8 percent slopes—15 percent

Ninemile very cobbly loam, 4 to 8 percent slopes—4 percent

Softscrabble very stony loam, 15 to 30 percent slopes—3 percent

Dosie very gravelly loam, 15 to 30 percent slopes—2 percent

Vitritorrandic Argixerolls gravelly ashy sandy loam, 2 to 4 percent slopes—1 percent

Component Description

Hart Camp moist and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Residuum weathered from tuff

Typical vegetation: Needlegrass, Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, mountain big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 3 inches; stony loam

Layer 2—3 to 13 inches; gravelly sandy clay loam

Layer 3—13 to 23 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Component Description

Runyon and similar soils

Landform: Plateaus

Slope: 8 to 15 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, Idaho fescue, other perennial forbs, Canby bluegrass, mountain big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 6 percent stones, 6 percent cobbles, 18 percent gravel, 5 percent fine gravel

Layer 1—0 to 2 inches; cobbly loam

Layer 2—2 to 5 inches; loam

Layer 3—5 to 25 inches; gravelly loam

Layer 4—25 to 37 inches; cobbly loam

Layer 5—37 to 72 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE044CA—Cool loam 12-16"

Component Description

Ashtre and similar soils

Landform: Backslopes of ash flows

Slope: 2 to 8 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Other shrubs, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue, needlegrass

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ninemile and similar soils

Composition: 0 to 4 percent

Slope: 4 to 8 percent

Landform: Plateaus

Typical vegetation: Other shrubs, low sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses, bluegrass, Thurber's needlegrass, Idaho fescue

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Softscrabble and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Antelope bitterbrush, needlegrass, mountain big sagebrush, basin wildrye, bluebunch wheatgrass, other perennial forbs

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Dosie and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, needlegrass

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Vitrorrandic Argixerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy, frigid Vitrorrandic Argixerolls

Slope: 2 to 4 percent

Landform: Backslopes of ash flows

Typical vegetation: Nevada bluegrass, sedge, other perennial forbs, other perennial grasses

Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

423—Hart Camp-Softscrabble association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,910 to 6,340

Precipitation: 10 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Hart Camp stony loam, 4 to 15 percent slopes—60 percent

Softscrabble very cobbly loam, 15 to 50 percent slopes—30 percent

Ninemile very stony loam, 4 to 15 percent slopes—5 percent

Karlo very cobbly clay, 2 to 8 percent slopes—3 percent

Crocan extremely stony loam, 2 to 15 percent slopes—2 percent

Component Description

Hart Camp and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Residuum weathered from tuff

Typical vegetation: Antelope bitterbrush, other perennial forbs, needlegrass, bluebunch wheatgrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 3 inches; stony loam

Layer 2—3 to 13 inches; gravelly sandy clay loam

Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description

Softscrabble and similar soils

Landform: Backslopes of plateaus

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, mountain big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ninemile and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Other perennial grasses, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs, bluegrass, Idaho fescue

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Karlo and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Plateaus

Typical vegetation: Bottlebrush squirreltail, other perennial forbs, other shrubs, low sagebrush, Washoe rubber rabbitbrush, Sandberg bluegrass

Ecological site: R023XY001NV—Churning clay

Crocán and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Plateau rims

Typical vegetation: Forest canopy—western juniper
Forest understory—western needlegrass, Canby bluegrass, low sagebrush, other shrubs, Idaho fescue, bluebunch wheatgrass, Thurber's needlegrass, other trees, other perennial forbs, other perennial grasses

Ecological site: F023XY095NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

424—Hartner-Rock outcrop-Sesdah complex, 30 to 99 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 4,690 to 7,160

Precipitation: 12 to 26 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

Composition

Hartner very gravelly ashy sandy loam, 30 to 75 percent slopes—40 percent
 Rock outcrop, 30 to 99 percent slopes—25 percent
 Sisdah gravelly ashy loam, 30 to 75 percent slopes—20 percent
 Crazybird very gravelly ashy sandy loam, 30 to 50 percent slopes—6 percent
 Dawgbuffer very gravelly ashy sandy loam, 15 to 50 percent slopes—2 percent
 Welltomas very gravelly ashy loam, cool, 15 to 30 percent slopes—2 percent
 Histic Cryaquolls muck, cool, 2 to 8 percent slopes—1 percent
 Lithic Argixerolls very gravelly ashy loam, cool, 4 to 30 percent slopes—1 percent
 Lyonman gravelly ashy sandy loam, 30 to 50 percent slopes—1 percent
 Vitrandic Argixerolls very gravelly ashy sandy loam, 30 to 50 percent slopes—1 percent
 Vitrandic Haploxerolls extremely cobbly ashy loam, cool, 4 to 15 percent slopes—1 percent

Component Description**Hartner and similar soils**

Landform: Backslopes of mountains

Slope: 30 to 75 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Needlegrass, other perennial forbs, antelope bitterbrush, Indian ricegrass, other perennial grasses, purple sage, bluebunch wheatgrass, mountain big sagebrush, rubber rabbitbrush, western juniper, other shrubs

Typical profile:

Surface rock fragments: About 2 percent stones, 2 percent cobbles, 28 percent gravel
 Layer 1—0 to 1 inches; very gravelly ashy sandy loam
 Layer 2—1 to 4 inches; gravelly ashy sandy loam
 Layer 3—4 to 14 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 4 to 10 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 0.6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 8e

Ecological site: R021XE204CA—Eroded slope

Component Description**Rock outcrop**

Landform: Backslopes of escarpments

Component Description**Sisdah and similar soils**

Landform: Mountain slopes

Slope: 30 to 75 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Idaho fescue, Nevada bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush

Typical profile:

Surface rock fragments: About 35 percent gravel, 5 percent cobbles, 2 percent stones
 Layer 1—0 to 5 inches; gravelly ashy loam
 Layer 2—5 to 10 inches; gravelly ashy loam
 Layer 3—10 to 16 inches; very gravelly ashy sandy clay loam
 Layer 4—16 to 26 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE223CA—Ashy loamy slope

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Crazybird and similar soils

Composition: 0 to 6 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, bluebunch wheatgrass, antelope bitterbrush, mountain big sagebrush, other shrubs, other trees, needlegrass, bluegrass

Ecological site: R021XE205CA—South slope

Dawgbuffer and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Other trees, curl-leaf mountain mahogany, bluebunch wheatgrass, needlegrass, mountain brome, bluegrass, other perennial forbs, mountain big sagebrush, roundleaf snowberry

Ecological site: R021XE210CA—Mahogany Savanna

Welltomas and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, bluegrass, bluebunch wheatgrass, other shrubs, western juniper, low sagebrush

Ecological site: R021XE214CA—Claypan

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 2 to 8 percent

Landform: Mountain slopes

Typical vegetation: Rush, tufted hairgrass, sedge, other perennial grasses, other perennial forbs

Ecological site: R021XE226CA—Seep

Lithic Argixerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—western juniper
Forest understory—other shrubs, antelope bitterbrush, western juniper, mountain big sagebrush,

other perennial forbs, other perennial grasses, Sandberg bluegrass, Thurber's needlegrass

Ecological site: F021XE237CA

Lyonman and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—ponderosa pine

Forest understory—other perennial grasses, other shrubs, other perennial forbs, Wheeler bluegrass, ponderosa pine, roundleaf snowberry, needlegrass, Ross' sedge

Ecological site: F021XE230CA

Vitrandic Argixerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid, shallow Vitrandic Argixerolls

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Idaho fescue, other perennial grasses, other perennial forbs, bluebunch wheatgrass, mountain big sagebrush

Ecological site: R021XE228CA—Loamy

Vitrandic Haploxerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Vitrandic Haploxerolls

Slope: 4 to 15 percent

Landform: Stream terraces

Typical vegetation: Forest canopy—black cottonwood

Forest understory—Kentucky bluegrass, slender wheatgrass, redosier dogwood, black cottonwood, Woods' rose, other perennial forbs, other perennial grasses, other annual forbs, other shrubs, willow

Ecological site: F021XE238CA

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

425—Home Camp-Runyon association

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 6,100 to 6,460

Precipitation: 10 to 16 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 30 to 90 days

Composition

Home Camp stony loam, 5 to 15 percent slopes—65 percent
 Runyon gravelly loam, 9 to 30 percent slopes—20 percent
 Hart Camp stony loam, moist, 5 to 30 percent slopes—5 percent
 Rock outcrop, 15 to 30 percent slopes—5 percent
 Madeline very stony loam, 5 to 15 percent slopes—5 percent

Component Description

Home Camp and similar soils

Landform: Mountains
 Slope: 5 to 15 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 5 percent stones
 Layer 1—0 to 3 inches; stony loam
 Layer 2—3 to 9 inches; very gravelly loam
 Layer 3—9 to 17 inches; very gravelly sandy clay loam
 Layer 4—17 to 28 inches; very gravelly clay
 Layer 5—28 to 38 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE174CA—Stony loam 12-16"

Component Description

Runyon and similar soils

Landform: Mountains
 Slope: 9 to 30 percent
 Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Thurber's needlegrass, Idaho fescue, other perennial forbs, Canby bluegrass, mountain big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 6 percent stones, 6 percent cobbles, 18 percent gravel, 5 percent fine gravel
 Layer 1—0 to 2 inches; gravelly loam
 Layer 2—2 to 5 inches; loam
 Layer 3—5 to 25 inches; gravelly loam
 Layer 4—25 to 37 inches; cobbly loam
 Layer 5—37 to 72 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R021XE044CA—Cool loam 12-16"

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hart Camp and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 30 percent
 Landform: Mountains
 Typical vegetation: Needlegrass, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue
 Ecological site: R021XE174CA—Stony loam 12-16"

Rock outcrop

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Mountains

Madeline and similar soils

Composition: 0 to 5 percent

Slope: 5 to 15 percent

Landform: Toeslopes of mountains

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, Thurber's needlegrass

Ecological site: R021XE179CA—Warm stony loam 12-16"

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

426—Hovey silty clay loam**Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 4,450 to 4,570

Precipitation: 12 to 16 inches

Air temperature: 44 to 48 degrees Fahrenheit

Frost-free period: 90 to 115 days

Composition

Hovey silty clay loam, 0 to 2 percent slopes—85 percent

Couch ashy loam, 0 to 2 percent slopes—4 percent

Hussa ashy loam, 0 to 2 percent slopes—4 percent

Lolak silty clay, 0 to 2 percent slopes—4 percent

Hussa ashy clay loam, 0 to 2 percent slopes—3 percent

Component Description**Hovey and similar soils**

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Mixed alluvium and/or mixed lacustrine deposits

Typical profile:

Layer 1—0 to 10 inches; silty clay loam

Layer 2—10 to 48 inches; silty clay loam

Layer 3—48 to 72 inches; stratified fine sandy loam to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 3w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Couch and similar soils**

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Summits of basin-floor remnants

Typical vegetation: Other perennial grasses, Nevada bluegrass, basin wildrye, inland saltgrass, Lemmon's alkaligrass

Ecological site: R023XY002NV—Saline meadow

Hussa and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Inland saltgrass, basin wildrye, black greasewood, Nevada bluegrass

Ecological site: R023XY010NV—Saline bottom

Lolak and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, black greasewood

Ecological site: R023XY010NV—Saline bottom

Hussa and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

427—Hussa ashy clay loam, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Basin
 Elevation: 4,450 to 4,720
 Precipitation: 8 to 16 inches
 Air temperature: 45 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Hussa ashy clay loam, 0 to 2 percent slopes—90 percent
 Buntingville ashy loam, 0 to 2 percent slopes—5 percent
 Hussa ashy loam, 0 to 2 percent slopes—3 percent
 Histic Endoaquolls muck, cool, 0 to 2 percent slopes—2 percent

Component Description**Hussa and similar soils**

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 12 inches; ashy clay loam
 Layer 2—12 to 60 inches; stratified ashy sandy clay loam to ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 14 inches
 Present flooding: Occasional
 Present ponding: None
 Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w
 Nonirrigated land capability: 4w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Buntingville and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants

Hussa and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Other perennial grasses, sedge, other perennial forbs, Nevada bluegrass
 Ecological site: R023XY013NV—Dry meadow

Histic Endoaquolls and similar soils

Composition: 0 to 2 percent
 Classification: Ashy, glassy, frigid Histic Endoaquolls
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Bluegrass, other perennial forbs, other perennial grasses, rush, meadow barley, tufted hairgrass, sedge
 Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

428—Hussa ashy clay loam, clay substratum, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Basin
 Elevation: 4,450 to 4,710
 Precipitation: 8 to 16 inches
 Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Hussa ashy clay loam, 0 to 2 percent slopes—90 percent

Hovey silty clay loam, 0 to 2 percent slopes—4 percent

Buntingville ashy loam, 0 to 2 percent slopes—3 percent

Four Star ashy loam, 0 to 2 percent slopes—3 percent

Component Description

Hussa and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 12 inches; ashy clay loam

Layer 2—12 to 45 inches; stratified ashy sandy clay loam to ashy silty clay loam

Layer 3—45 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 12 inches

Present flooding: Rare

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 4w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hovey and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Buntingville and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Four Star and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

429—Hussa ashy loam, clay substratum, drained, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,450 to 4,580

Precipitation: 8 to 16 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Hussa ashy loam, 0 to 2 percent slopes—85 percent

Four Star ashy loam, 0 to 2 percent slopes—5 percent

Four Star ashy loam, 0 to 2 percent slopes—3 percent

Hussa ashy loam, 0 to 2 percent slopes—3 percent

Hussa ashy loam, 0 to 2 percent slopes—2 percent

Surprise gravelly ashy sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Hussa and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Other perennial forbs, other perennial grasses, Nevada bluegrass, sedge

Typical profile:

Layer 1—0 to 12 inches; ashy loam

Layer 2—12 to 45 inches; stratified ashy sandy clay loam to ashy silty clay loam

Layer 3—45 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Low,
 (Permeability class: Very slow)
 Available water capacity: About 12 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w
 Nonirrigated land capability: 4w
 Ecological site: R023XY013NV—Dry meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Four Star and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Flood plains

Four Star seeped and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Flood plains

Hussa and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Black greasewood, basin wildrye,
 Nevada bluegrass, inland saltgrass
 Ecological site: R023XY010NV—Saline bottom

Hussa and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Other perennial forbs, other
 perennial grasses, sedge, Nevada bluegrass
 Ecological site: R023XY013NV—Dry meadow

Surprise and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants

Typical vegetation: Bluegrass, big sagebrush, Thurber's
 needlegrass, other perennial forbs, bluebunch
 wheatgrass, antelope bitterbrush, other shrubs
 Ecological site: R023XY022NV—Well drained fan 12-14
 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

430—Hussa ashy loam, drained, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23
 Landscape: Basin
 Elevation: 4,450 to 4,560
 Precipitation: 8 to 16 inches
 Air temperature: 45 to 48 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Hussa ashy loam, 0 to 2 percent slopes—85 percent
 Lolak silty clay, 0 to 2 percent slopes—6 percent
 Husa ashy loam, 0 to 2 percent slopes—5 percent
 Husa ashy clay loam, 0 to 2 percent slopes—4 percent

Component Description**Hussa and similar soils**

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or alluvium derived
 from volcanic rock
 Typical vegetation: Sedge, Nevada bluegrass, other
 perennial grasses, other perennial forbs

Typical profile:

Layer 1—0 to 12 inches; ashy loam
 Layer 2—12 to 60 inches; stratified ashy sandy clay
 loam to ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 13 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 4w

Ecological site: R023XY013NV—Dry meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lolak and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Inland saltgrass, black greasewood, Nevada bluegrass, basin wildrye

Ecological site: R023XY010NV—Saline bottom

Hussa and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, Nevada bluegrass, basin wildrye, inland saltgrass

Ecological site: R023XY010NV—Saline bottom

Hussa and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

431—Hussa ashy loam, drained, 2 to 5 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,450 to 4,590

Precipitation: 8 to 16 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Hussa ashy loam, 2 to 5 percent slopes—90 percent

Four Star ashy loam, 0 to 2 percent slopes—5 percent

Hussa ashy loam, 0 to 2 percent slopes—5 percent

Component Description

Hussa and similar soils

Landform: Lake terraces

Slope: 2 to 5 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Other perennial forbs, other perennial grasses, sedge, Nevada bluegrass

Typical profile:

Layer 1—0 to 12 inches; ashy loam

Layer 2—12 to 60 inches; stratified ashy sandy clay loam to ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 13 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 4w

Ecological site: R023XY013NV—Dry meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Four Star and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Hussa and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Inland saltgrass, black greasewood,
Nevada bluegrass, basin wildrye

Ecological site: R023XY010NV—Saline bottom

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

432—Hussa ashy loam, slightly saline-alkali, 0 to 2 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 4,450 to 4,580

Precipitation: 8 to 16 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Hussa ashy loam, 0 to 2 percent slopes—90 percent

Four Star ashy loam, 0 to 2 percent slopes—5 percent

Hussa ashy loam, 0 to 2 percent slopes—5 percent

Component Description**Hussa and similar soils**

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived
from volcanic rock

Typical vegetation: Nevada bluegrass, black
greasewood, inland saltgrass, basin wildrye

Typical profile:

Layer 1—0 to 10 inches; ashy loam

Layer 2—10 to 40 inches; stratified ashy sandy clay
loam to ashy silty clay loam

Layer 3—40 to 60 inches; ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Available water capacity: About 13 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w

Nonirrigated land capability: 4w

Ecological site: R023XY010NV—Saline bottom

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Four Star and similar soils**

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Flood plains

Hussa and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Sedge, Nevada bluegrass, other
perennial grasses, other perennial forbs

Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

433—Hussa ashy silty clay loam, seeped, 0 to 9 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 4,450 to 4,840

Precipitation: 8 to 16 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Hussa ashy silty clay loam, 0 to 9 percent slopes—90 percent

Buntingville ashy loam, 0 to 2 percent slopes—4 percent

Four Star ashy loam, 0 to 2 percent slopes—3 percent

Hovey silty clay loam, 0 to 2 percent slopes—3 percent

Component Description

Hussa and similar soils

Landform: Flood plains

Slope: 0 to 9 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 12 inches; ashy silty clay loam

Layer 2—12 to 60 inches; stratified ashy sandy clay loam to ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 14 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Very poorly drained

Interpretive Groups

Irrigated land capability: 6w

Nonirrigated land capability: 6w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Buntingville and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Four Star and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Hovey and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

434—Hussa ashy silty clay loam, seeped, cold, 0 to 9 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 5,990 to 6,200

Precipitation: 8 to 16 inches

Air temperature: 45 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Hussa ashy silty clay loam, seeped, cold, 0 to 9 percent slopes—95 percent

Four Star ashy loam, cold, 0 to 2 percent slopes—5 percent

Component Description

Hussa and similar soils

Landform: Flood plains

Slope: 0 to 9 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical profile:

Layer 1—0 to 12 inches; ashy silty clay loam

Layer 2—12 to 60 inches; stratified ashy sandy clay loam to ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 14 inches

Present flooding: Occasional

Present ponding: None

Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Irrigated land capability: 6w
 Nonirrigated land capability: 6w

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Four Star and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

435—Hussa-Couch ashy loams, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,450 to 4,600
 Precipitation: 8 to 16 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Hussa ashy loam, 0 to 2 percent slopes—65 percent
 Couch ashy loam, 0 to 2 percent slopes—25 percent
 Hovey silty clay loam, 0 to 2 percent slopes—4 percent
 Dangvar ashy loam, 0 to 2 percent slopes—3 percent
 Hussa ashy clay loam, 0 to 2 percent slopes—3 percent

Component Description

Hussa and similar soils

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Basin wildrye, Nevada bluegrass, black greasewood, inland saltgrass

Typical profile:

Layer 1—0 to 12 inches; ashy loam
 Layer 2—12 to 60 inches; stratified ashy sandy clay loam to ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 13 inches
 Present flooding: Occasional
 Present ponding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 3w
 Nonirrigated land capability: 4w
 Ecological site: R023XY010NV—Saline bottom

Component Description

Couch and similar soils

Landform: Summits of basin-floor remnants
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or alluvium derived from volcanic rock
 Typical vegetation: Inland saltgrass, Lemmon's alkaligrass, other perennial grasses, basin wildrye, Nevada bluegrass

Typical profile:

Layer 1—0 to 1 inches; ashy loam
 Layer 2—1 to 22 inches; clay
 Layer 3—22 to 60 inches; stratified ashy sandy loam to ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 8 inches
 Present flooding: Rare
 Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY002NV—Saline meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hovey and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Dangvar and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Summits of lake terraces

Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, black greasewood

Ecological site: R023XY010NV—Saline bottom

Hussa and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

436—Hutchley-Ashtre association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,000 to 6,840

Precipitation: 12 to 16 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 55 to 100 days

Composition

Hutchley very cobbly sandy loam, 2 to 8 percent slopes—70 percent

Ashtre very gravelly ashy loam, 2 to 8 percent slopes—15 percent

Nutzan very gravelly ashy sandy loam, 2 to 8 percent slopes—8 percent

Dosie very gravelly loam, 15 to 30 percent slopes—5 percent

Softscrabble very stony loam, 15 to 30 percent slopes—2 percent

Component Description

Hutchley and similar soils

Landform: Summits of mountains

Slope: 2 to 8 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Needlegrass, Idaho fescue, antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, basin wildrye

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very cobbly sandy loam

Layer 2—6 to 14 inches; very gravelly clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Component Description

Ashtre and similar soils

Landform: Backslopes of ash flows

Slope: 2 to 8 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Mountain big sagebrush, needlegrass, Idaho fescue, other perennial forbs, bluebunch wheatgrass, bluegrass, other shrubs, other perennial grasses

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Nutzan and similar soils**

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Summits of mountains

Typical vegetation: Other shrubs, mountain big sagebrush, other perennial forbs, other perennial grasses, Idaho fescue, needlegrass, antelope bitterbrush

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Dosie and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, needlegrass

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Softscrabble and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Mountain big sagebrush, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, basin wildrye, needlegrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

437—Hutchley-Cavin-Brownsbowl association***Map Unit Setting***

MLRA: 23

Landscape: Mountains

Elevation: 4,980 to 7,290

Precipitation: 12 to 18 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 55 to 85 days

Composition

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—40 percent

Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—30 percent

Brownsbowl gravelly ashy sandy loam, 15 to 30 percent slopes—20 percent

Badgercamp bouldery loam, 8 to 15 percent slopes—4 percent

Mosquet very gravelly fine sandy loam, 4 to 15 percent slopes—3 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—2 percent

Hashwoods ashy fine sandy loam, 4 to 15 percent slopes—1 percent

Component Description**Hutchley and similar soils**

Landform: Summits of mountains

Slope: 4 to 15 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Antelope bitterbrush, mountain big sagebrush, basin wildrye, other perennial forbs, bluebunch wheatgrass, Idaho fescue, needlegrass

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel
 Layer 1—0 to 6 inches; very cobbly sandy loam
 Layer 2—6 to 14 inches; very gravelly clay loam
 Layer 3—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY008NV—Mountain ridge

Component Description**Cavin and similar soils**

Landform: East to west aspects on shoulders of mountains
 Slope: 8 to 30 percent, east to west aspects
 Parent material: Volcanic ash and colluvium derived from volcanic rock
 Typical vegetation: Mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, needlegrass, Idaho fescue, Cusick's bluegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 2 inches; very gravelly ashy sandy loam
 Layer 2—2 to 11 inches; very gravelly ashy sandy loam
 Layer 3—11 to 18 inches; very gravelly ashy sandy loam
 Layer 4—18 to 24 inches; very gravelly ashy sandy loam
 Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches

Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description**Brownsbowl and similar soils**

Landform: Northeast to northwest aspects on backslopes of mountains
 Slope: 15 to 30 percent, northeast to northwest aspects
 Parent material: Volcanic ash and colluvium derived from andesite
 Typical vegetation: Other perennial forbs, melic, mountain brome, needlegrass, Idaho fescue, other shrubs, mountain big sagebrush

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam
 Layer 2—10 to 28 inches; gravelly ashy sandy loam
 Layer 3—28 to 34 inches; cobbly ashy sandy loam
 Layer 4—34 to 41 inches; very cobbly ashy sandy loam
 Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
 Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions**Badgercamp and similar soils**

Composition: 0 to 4 percent
 Slope: 8 to 15 percent
 Landform: Shoulders of mountains

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, Cusick's bluegrass, needlegrass, curleaf mountainmahogany, Idaho fescue
 Ecological site: R023XY026NV—Mahogany Savanna

Mosquet and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent, north aspect
 Landform: North facing mountains
 Typical vegetation: Low sagebrush, other perennial forbs, other perennial grasses, bluegrass, Idaho fescue
 Ecological site: R023XY014NV—Shallow loam 14+ P.Z.

Snag and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Ground moraines
 Typical vegetation: Other shrubs, mountain big sagebrush, other perennial forbs, other perennial grasses, basin wildrye, Idaho fescue, mountain brome, needlegrass, bluegrass, snowberry
 Ecological site: R023XY019NV—Loamy 16+ P.Z.

Hashwoods and similar soils

Composition: 0 to 1 percent
 Slope: 4 to 15 percent, northwest to northeast aspects
 Landform: Northwest to northeast aspects on footslopes of mountains
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—mountain brome, quaking aspen, snowberry, other shrubs, other perennial forbs, other perennial grasses, Nevada bluegrass, slender wheatgrass
 Ecological site: F023XY028NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

438—Hutchley-Cavin-Zorromount association

Map Unit Setting

MLRA: 23
 Landscape: Mountains

Elevation: 6,180 to 7,530
 Precipitation: 12 to 18 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 55 to 85 days

Composition

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—50 percent
 Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—25 percent
 Zorromount gravelly ashy mucky fine sandy loam, 8 to 30 percent slopes—15 percent
 Ashtre very gravelly ashy loam, 4 to 15 percent slopes—5 percent
 Nutzan very gravelly ashy sandy loam, 4 to 30 percent slopes—2 percent
 Zorromount very gravelly ashy sandy loam, snowpocket, 4 to 30 percent slopes—2 percent
 Rock outcrop—1 percent

Component Description

Hutchley and similar soils

Landform: Summits of mountains
 Slope: 4 to 15 percent
 Parent material: Colluvium and residuum derived from volcanic rocks
 Typical vegetation: Needlegrass, antelope bitterbrush, other perennial forbs, basin wildrye, Idaho fescue, bluebunch wheatgrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel
 Layer 1—0 to 6 inches; very cobbly sandy loam
 Layer 2—6 to 14 inches; very gravelly clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Component Description**Cavin and similar soils**

Landform: East to west aspects on shoulders of mountains

Slope: 8 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rock

Typical vegetation: Cusick's bluegrass, Idaho fescue, other perennial forbs, bluebunch wheatgrass, mountain big sagebrush, needlegrass

Typical profile:

Surface rock fragments: About 4 percent stones

Layer 1—0 to 2 inches; very gravelly ashy sandy loam

Layer 2—2 to 11 inches; very gravelly ashy sandy loam

Layer 3—11 to 18 inches; very gravelly ashy sandy loam

Layer 4—18 to 24 inches; very gravelly ashy sandy loam

Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description**Zorromount and similar soils**

Landform: West to east aspects on backslopes of mountains

Slope: 8 to 30 percent, west to east aspects

Parent material: Volcanic ash and colluvium derived from volcanic rocks

Typical vegetation: Cusick's bluegrass, needlegrass, mountain big sagebrush, curleaf mountainmahogany, bluebunch wheatgrass, Idaho fescue

Typical profile:

Surface rock fragments: About 8 percent stones

Layer 1—0 to 1 inches; gravelly ashy mucky fine sandy loam

Layer 2—1 to 11 inches; very gravelly ashy sandy loam

Layer 3—11 to 31 inches; extremely gravelly ashy fine sandy loam

Layer 4—31 to 60 inches; extremely gravelly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY026NV—Mahogany Savanna

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ashtre and similar soils**

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Backslopes of ash flows

Typical vegetation: Mountain big sagebrush, other shrubs, needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Nutzan and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Summits of mountains

Typical vegetation: Antelope bitterbrush, other shrubs, mountain big sagebrush, other perennial forbs, other perennial grasses, Idaho fescue, needlegrass

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Zorromount snowpocket and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent, west to east aspects

Landform: West to east aspects on backslopes of mountains
 Typical vegetation: Other shrubs, other perennial grasses, snowbrush ceanothus, other perennial forbs
 Ecological site: R025XY052NV—Ceanothus thicket

Rock outcrop

Composition: 0 to 1 percent
 Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

439—Hutchley-Mosquet-Brownsbowl association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,200 to 7,670
 Precipitation: 12 to 16 inches
 Air temperature: 42 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—35 percent
 Mosquet very gravelly fine sandy loam, 4 to 15 percent slopes—30 percent
 Brownsbowl gravelly ashy sandy loam, 15 to 50 percent slopes—25 percent
 Snag very stony ashy sandy loam, 2 to 15 percent slopes—5 percent
 Tusune gravelly ashy loam, 15 to 30 percent slopes—2 percent
 Zorromount gravelly ashy mucky fine sandy loam, 4 to 8 percent slopes—2 percent
 Cavin very gravelly ashy sandy loam, 15 to 30 percent slopes—1 percent

Component Description

Hutchley and similar soils

Landform: North facing summits of plateaus
 Slope: 4 to 15 percent, north aspect
 Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, basin wildrye, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel
 Layer 1—0 to 6 inches; very cobbly sandy loam
 Layer 2—6 to 14 inches; very gravelly clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY008NV—Mountain ridge

Component Description

Mosquet and similar soils

Landform: North facing backslopes of plateaus
 Slope: 4 to 15 percent, north aspect
 Parent material: Residuum and coluvium from andesite or basalt and volcanic ash from eolian deposits
 Typical vegetation: Low sagebrush, other perennial forbs, bluegrass, Idaho fescue, other perennial grasses

Typical profile:

Surface rock fragments: About 50 percent gravel
 Layer 1—0 to 2 inches; very gravelly fine sandy loam
 Layer 2—2 to 5 inches; gravelly sandy clay loam
 Layer 3—5 to 9 inches; gravelly clay loam
 Layer 4—9 to 14 inches; very gravelly clay
 Layer 5—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY014NV—Shallow loam 14+ P.Z.

Component Description**Brownsbowl and similar soils**

Landform: Northeast to northwest aspects on backslopes of plateaus
 Slope: 15 to 50 percent, northeast to northwest aspects
 Parent material: Volcanic ash and colluvium derived from andesite
 Typical vegetation: Mountain brome, Idaho fescue, other shrubs, other perennial forbs, mountain big sagebrush, needlegrass, melic

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam
 Layer 2—10 to 28 inches; gravelly ashy sandy loam
 Layer 3—28 to 34 inches; cobbly ashy sandy loam
 Layer 4—34 to 41 inches; very cobbly ashy sandy loam
 Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
 Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Snag and similar soils**

Composition: 0 to 5 percent
 Slope: 2 to 15 percent
 Landform: Ground moraines
 Typical vegetation: Needlegrass, mountain brome, basin wildrye, bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs, snowberry, Idaho fescue
 Ecological site: R023XY019NV—Loamy 16+ P.Z.

Tusune and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Foothills of plateaus
 Typical vegetation: Other shrubs, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, Cusick's bluegrass, Idaho fescue
 Ecological site: R023XY054NV—Steep north slope

Zorromount and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 8 percent, west to east aspects
 Landform: West to east aspects on backslopes of plateaus
 Typical vegetation: Curleaf mountainmahogany, bluebunch wheatgrass, Idaho fescue, needlegrass, Cusick's bluegrass, mountain big sagebrush
 Ecological site: R023XY026NV—Mahogany Savanna

Cavin and similar soils

Composition: 0 to 1 percent
 Slope: 15 to 30 percent, east to west aspects
 Landform: East to west aspects on shoulders of plateaus
 Typical vegetation: Bluebunch wheatgrass, other perennial forbs, Cusick's bluegrass, Idaho fescue, needlegrass, mountain big sagebrush
 Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

440—Hutchley-Ninemile-Nutzan association**Map Unit Setting**

MLRA: 23
 Landscape: Mountains

Elevation: 5,820 to 7,920
 Precipitation: 12 to 16 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 55 to 85 days

Composition

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—50 percent
 Ninemile very cobbly loam, 4 to 15 percent slopes—25 percent
 Nutzan very gravelly ashy sandy loam, 4 to 15 percent slopes—15 percent
 Badgercamp bouldery loam, 8 to 15 percent slopes—5 percent
 Cavin very gravelly ashy sandy loam, 8 to 15 percent slopes—4 percent
 Rock outcrop—1 percent

Component Description

Hutchley and similar soils

Landform: Summits of mountains
 Slope: 4 to 15 percent
 Parent material: Colluvium and residuum derived from volcanic rocks
 Typical vegetation: Basin wildrye, antelope bitterbrush, needlegrass, mountain big sagebrush, Idaho fescue, bluebunch wheatgrass, other perennial forbs

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel
 Layer 1—0 to 6 inches; very cobbly sandy loam
 Layer 2—6 to 14 inches; very gravelly clay loam
 Layer 3—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Component Description

Ninemile and similar soils

Landform: Mountains
 Slope: 4 to 15 percent
 Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock
 Typical vegetation: Other shrubs, low sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses, Idaho fescue, Thurber's needlegrass, bluegrass

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1—0 to 7 inches; very cobbly loam
 Layer 2—7 to 19 inches; gravelly clay
 Layer 3—19 to 29 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description

Nutzan and similar soils

Landform: Summits of mountains
 Slope: 4 to 15 percent
 Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Antelope bitterbrush, mountain big sagebrush, other perennial forbs, other perennial grasses, Idaho fescue, needlegrass, other shrubs

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 10 inches; very gravelly ashy sandy loam

Layer 2—10 to 17 inches; gravelly ashy sandy loam
 Layer 3—17 to 28 inches; very gravelly ashy sandy loam
 Layer 4—28 to 36 inches; extremely gravelly ashy
 coarse sandy loam
 Layer 5—36 to 46 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40
 inches
 Saturated hydraulic conductivity class (root zone): High,
 (Permeability class: Moderately rapid)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions

Badgercamp and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 15 percent
 Landform: Shoulders of mountains
 Typical vegetation: Idaho fescue, bluebunch wheatgrass,
 needlegrass, Cusick's bluegrass, mountain big
 sagebrush, curleaf mountainmahogany
 Ecological site: R023XY026NV—Mahogany Savanna

Cavin and similar soils

Composition: 0 to 4 percent
 Slope: 8 to 15 percent, east to west aspects
 Landform: East to west aspects on shoulders of
 mountains
 Typical vegetation: Cusick's bluegrass, needlegrass,
 other perennial forbs, bluebunch wheatgrass,
 mountain big sagebrush, Idaho fescue
 Ecological site: R023XY061NV—Mountain shoulders 14-
 18 P.Z.

Rock outcrop

Composition: 0 to 1 percent
 Landform: Mountains

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

441—Hutchley-Softscrabble association

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 6,040 to 6,910
 Precipitation: 12 to 20 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 50 to 85 days

Composition

Hutchley very cobbly sandy loam, 4 to 15 percent
 slopes—60 percent
 Softscrabble very cobbly loam, 15 to 30 percent
 slopes—30 percent
 Wylo very stony loam, 4 to 15 percent slopes—5 percent
 Softscrabble very stony loam, 30 to 50 percent slopes—
 3 percent
 Rock outcrop—2 percent

Component Description

Hutchley and similar soils

Landform: Summits of mountains
 Slope: 4 to 15 percent
 Parent material: Colluvium and residuum derived from
 volcanic rocks
 Typical vegetation: Antelope bitterbrush, bluebunch
 wheatgrass, other perennial forbs, basin wildrye,
 Idaho fescue, mountain big sagebrush, needlegrass

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21
 percent gravel, 2 percent fine gravel
 Layer 1—0 to 6 inches; very cobbly sandy loam
 Layer 2—6 to 14 inches; very gravelly clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20
 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Component Description

Softscrabble and similar soils

Landform: Backslopes of mountains

Slope: 15 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Other perennial forbs, antelope bitterbrush, basin wildrye, needlegrass, bluebunch wheatgrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Wylo and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on shoulders of mountains

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, bluegrass, Lahontan sagebrush, other perennial forbs

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Softscrabble and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Other perennial forbs, antelope bitterbrush, bluebunch wheatgrass, needlegrass, basin wildrye, mountain big sagebrush

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

442—Indian Creek-Buffaran association

Map Unit Setting

MLRA: 23

Landscape: Fan piedmont

Elevation: 5,040 to 5,760

Precipitation: 9 to 12 inches

Air temperature: 46 to 49 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Indian Creek very cobbly loam, 4 to 15 percent slopes—50 percent

Buffaran cobbly loam, 4 to 15 percent slopes—35 percent

Corral stony loam, 4 to 15 percent slopes—5 percent

Devada very stony loam, 2 to 15 percent slopes—5 percent

Schamp very stony loam, 2 to 8 percent slopes—3 percent

Vertic Paleargids silt loam, 0 to 2 percent slopes—2 percent

Component Description

Indian Creek and similar soils

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Low sagebrush, other perennial forbs, Webber needlegrass, Thurber's needlegrass, bluegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 25 percent cobbles, 12 percent gravel

Layer 1—0 to 5 inches; very cobbly loam

Layer 2—5 to 18 inches; gravelly clay

Layer 3—18 to 25 inches; cemented material

Layer 4—25 to 60 inches; stratified extremely gravelly loamy coarse sand to gravelly sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Component Description

Buffaran and similar soils

Landform: Fan remnants

Slope: 4 to 15 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 6 percent stones, 10 percent cobbles, 10 percent gravel

Layer 1—0 to 2 inches; cobbly loam

Layer 2—2 to 16 inches; gravelly clay loam

Layer 3—16 to 27 inches; cemented material

Layer 4—27 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Duripan: 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Corral and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Hills

Typical vegetation: Other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Devada and similar soils

Composition: 0 to 5 percent

Slope: 2 to 15 percent

Landform: Summits of hills

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, low sagebrush, bluegrass, other perennial forbs

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Schamp and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Backslopes of hills

Typical vegetation: Thurber's needlegrass, other shrubs, other perennial forbs, other perennial grasses, Wyoming big sagebrush, Indian ricegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Vertic Paleargids and similar soils

Composition: 0 to 2 percent
 Classification: Very-fine, smectitic, frigid Vertic Paleargids
 Slope: 0 to 2 percent
 Landform: Lake plains
 Typical vegetation: Other perennial forbs, Nevada bluegrass, early sagebrush, Cusick's bluegrass, basin wildrye, needlegrass
 Ecological site: R023XY090NV—Clay plain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

443—Jaybee-Verdico association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,120 to 5,600
 Precipitation: 8 to 10 inches
 Air temperature: 48 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Jaybee very cobbly loam, 2 to 8 percent slopes—50 percent
 Verdico cobbly sandy loam, 4 to 15 percent slopes—35 percent
 Emagert ashy loam, 0 to 2 percent slopes—7 percent
 Reywat very stony loam, 4 to 15 percent slopes—5 percent
 Toney very cobbly loam, 8 to 30 percent slopes—2 percent
 Schamp stony loam, 2 to 8 percent slopes—1 percent

Component Description

Jaybee and similar soils

Landform: Plateaus
 Slope: 2 to 8 percent
 Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Lahontan sagebrush, Thurber's needlegrass, Indian ricegrass, spiny hopsage, Sandberg bluegrass, other perennial grasses, other perennial forbs, bottlebrush squirreltail, ephedra, other shrubs

Typical profile:

Surface rock fragments: About 1 percent stones, 31 percent cobbles, 18 percent gravel
 Layer 1—0 to 4 inches; very cobbly loam
 Layer 2—4 to 14 inches; gravelly clay
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY047NV—Gravelly clay 8-10 P.Z.

Component Description

Verdico and similar soils

Landform: Plateaus
 Slope: 4 to 15 percent
 Parent material: Colluvium and/or residuum weathered from tuff
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, spiny hopsage, Sandberg bluegrass, other perennial forbs, Lahontan sagebrush, ephedra, other shrubs, other perennial grasses

Typical profile:

Surface rock fragments: About 5 percent stones, 10 percent cobbles, 10 percent gravel
 Layer 1—0 to 3 inches; cobbly sandy loam
 Layer 2—3 to 17 inches; clay
 Layer 3—17 to 22 inches; gravelly clay
 Layer 4—22 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY047NV—Gravelly clay 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Emagert and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Basin big sagebrush, other perennial forbs, other perennial grasses, Nevada bluegrass, basin wildrye

Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Reywat and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, big sagebrush

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Toney and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Schamp and similar soils

Composition: 0 to 1 percent

Slope: 2 to 8 percent

Landform: Plateaus

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

444—Keddie loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Alluvial plain

Elevation: 5,200 to 6,230

Precipitation: 12 to 30 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Keddie loam, 0 to 2 percent slopes—95 percent

Dotta gravelly loam, 0 to 5 percent slopes—3 percent

Emamount ashy loam, 0 to 4 percent slopes—1 percent

Grimlake cobbly clay, 0 to 2 percent slopes—1 percent

Component Description

Keddie and similar soils

Landform: Flood plains

Slope: 0 to 2 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Tufted hairgrass, meadow barley, Baltic rush, Nebraska sedge, sedge, silver sagebrush, willow, other perennial forbs

Typical profile:

Layer 1—0 to 34 inches; loam

Layer 2—34 to 50 inches; stratified sandy loam to clay loam

Layer 3—50 to 60 inches; stratified very gravelly loamy coarse sand to very gravelly sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 9 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 4
 Nonirrigated land capability: 6w
 Ecological site: R021XE208CA—Semi-wet meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dotta and similar soils

Composition: 0 to 3 percent
 Classification: Fine-loamy, mixed, superactive, frigid
 Pachic Argixerolls
 Slope: 0 to 5 percent
 Landform: Stream terraces
 Typical vegetation: Idaho fescue, antelope bitterbrush, bluegrass, needlegrass, mountain big sagebrush
 Ecological site: R021XE044CA—Cool loam 12-16"

Emamount and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 4 percent
 Landform: Stream terraces
 Typical vegetation: Wheatgrass, basin wildrye, other perennial grasses, other perennial forbs, mountain big sagebrush
 Ecological site: R023XY056NV—Loamy bottom 12-16 P.Z.

Grimlake and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 2 percent
 Landform: Lake plains
 Typical vegetation: Silver sagebrush, Nebraska sedge, willow, sedge, tufted hairgrass, meadow barley, Baltic rush, other perennial forbs
 Ecological site: R021XE208CA—Semi-wet meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section

"Engineering" and "Soil Properties" sections

445—Leviathan very gravelly loam, 2 to 8 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 5,480 to 5,940
 Precipitation: 10 to 14 inches
 Air temperature: 46 to 54 degrees Fahrenheit
 Frost-free period: 90 to 110 days

Composition

Leviathan very gravelly loam, 2 to 8 percent slopes—90 percent
 Pickup very stony loam, 2 to 8 percent slopes—5 percent
 Xeric Torriorthents cobbly sandy loam, 2 to 4 percent slopes—5 percent

Component Description

Leviathan and similar soils

Landform: Fan remnants
 Slope: 2 to 8 percent
 Parent material: Mixed alluvium
 Typical vegetation: Other perennial forbs, Thurber's needlegrass, big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 1 percent stones, 5 percent cobbles, 38 percent gravel, 10 percent fine gravel
 Layer 1—0 to 8 inches; very gravelly loam
 Layer 2—8 to 60 inches; very gravelly sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4s
 Nonirrigated land capability: 7s

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Pickup and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Hills

Typical vegetation: Thurber's needlegrass, other perennial forbs, Lahontan sagebrush, bluegrass, bluebunch wheatgrass

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Xeric Torriorthents and similar soils

Composition: 0 to 5 percent

Classification: Loamy-skeletal, mixed, superactive, nonacid, mesic Xeric Torriorthents

Slope: 2 to 4 percent

Landform: Channels

Typical vegetation: Basin wildrye, spiny hopsage, basin big sagebrush, Indian ricegrass, other perennial grasses, other shrubs

Ecological site: R027XY029NV—Gravelly fan 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

446—Lolak silty clay

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,450 to 4,560

Precipitation: 8 to 12 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 70 to 100 days

Composition

Lolak silty clay, 0 to 2 percent slopes—90 percent

Hovey silty clay loam, 0 to 2 percent slopes—4 percent

Bicondoa clay, 0 to 2 percent slopes—3 percent

Cuminvar muck, 0 to 2 percent slopes—3 percent

Component Description

Lolak and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Lacustrine deposits derived from volcanic rock

Typical vegetation: Basin wildrye, inland saltgrass, Nevada bluegrass, black greasewood

Typical profile:

Layer 1—0 to 4 inches; silty clay

Layer 2—4 to 60 inches; stratified silt loam to clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 9 inches

Present flooding: Rare

Present ponding: None

Water table: Present

Natural drainage class: Poorly drained

Interpretive Groups

Nonirrigated land capability: 7w

Ecological site: R023XY010NV—Saline bottom

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hovey and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Bicondoa and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Flood plains

Cuminvar and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

447—Longdis-Dugway association

Map Unit Setting

MLRA: 23
Landscape: Bolson
Elevation: 5,560 to 5,720
Precipitation: 8 to 10 inches
Air temperature: 45 to 46 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Longdis silty clay loam, 0 to 2 percent slopes—60 percent
Dugway fine sandy loam, 0 to 2 percent slopes—30 percent
Updike silt loam, 0 to 2 percent slopes—6 percent
Langston gravelly sandy loam, 2 to 4 percent slopes—3 percent
Paypoint gravelly ashy fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description

Longdis and similar soils

Landform: Lake terraces
Slope: 0 to 2 percent
Parent material: Volcanic ash, alluvium and/or lacustrine deposits
Typical vegetation: Other shrubs, black greasewood, spiny hopsage, big sagebrush, other perennial forbs, other perennial grasses, basin wildrye, bottlebrush squirreltail

Typical profile:

Layer 1—0 to 5 inches; silty clay loam
Layer 2—5 to 26 inches; clay
Layer 3—26 to 45 inches; clay
Layer 4—45 to 61 inches; stratified silty clay loam to clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Sodicity: Sodic within 40 inches
Available water capacity: About 10 inches
Present flooding: None

Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Component Description

Dugway and similar soils

Landform: Lake terraces
Slope: 0 to 2 percent
Parent material: Volcanic ash and lacustrine deposits
Typical vegetation: Other perennial forbs, basin wildrye, western wheatgrass, Nevada bluegrass, basin big sagebrush

Typical profile:

Layer 1—0 to 5 inches; fine sandy loam
Layer 2—5 to 18 inches; clay
Layer 3—18 to 35 inches; silt loam
Layer 4—35 to 52 inches; cemented material
Layer 5—52 to 61 inches; stratified silt loam to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
Depth to restrictive feature: Duripan: 20 to 40 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Sodicity: Sodic within 40 inches
Available water capacity: About 6 inches
Present flooding: None
Present ponding: None
Water table: Present
Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY005NV—Dry floodplain

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Updike and similar soils

Composition: 0 to 6 percent
Slope: 0 to 2 percent
Landform: Lake terraces

Typical vegetation: Black greasewood, Nevada bluegrass, basin wildrye, inland saltgrass
Ecological site: R023XY010NV—Saline bottom

Langston and similar soils

Composition: 0 to 3 percent
Slope: 2 to 4 percent
Landform: Longshore bar (relict)s
Typical vegetation: Indian ricegrass, Thurber's needlegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Paypoint and similar soils

Composition: 0 to 1 percent
Slope: 0 to 2 percent
Landform: Lagoons
Typical vegetation: Needlegrass, big sagebrush, basin wildrye, other perennial grasses, bluegrass
Ecological site: R023XY082NV—Loamy fan 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

448—Longval gravelly ashy fine sandy loam, 4 to 30 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 7,250 to 8,440
Precipitation: 20 to 30 inches
Air temperature: 39 to 41 degrees Fahrenheit
Frost-free period: 40 to 50 days

Composition

Longval gravelly ashy fine sandy loam, 4 to 30 percent slopes—85 percent
Lyonman gravelly ashy sandy loam, 8 to 30 percent slopes—4 percent
Nowack very gravelly mucky ashy loam, cool, 8 to 30 percent slopes—3 percent
Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—3 percent
Pyropatti gravelly ashy loam, cool, 4 to 30 percent slopes—3 percent
Histic Cryaquolls muck, cool, 2 to 8 percent slopes—1 percent

Rock outcrop, 4 to 30 percent slopes—1 percent

Component Description

Longval and similar soils

Landform: Foothills of mountains
Slope: 4 to 30 percent
Parent material: Volcanic ash and/or alluvium derived from volcanic rock and/or colluvium derived from volcanic rock
Typical vegetation: Forest canopy—lodgepole pine
Forest understory—mountain big sagebrush, lodgepole pine, other shrubs, other perennial grasses, Ross' sedge, mountain brome, Wheeler bluegrass, western needlegrass, California needlegrass, other perennial forbs
Site index: Lodgepole pine—68 at an age base of 100 years

Typical profile:

Oi—0 to 0.5 inches; slightly decomposed plant material
Layer 1—0.5 to 15 inches; gravelly ashy fine sandy loam
Layer 2—15 to 32 inches; very cobbly ashy fine sandy loam
Layer 3—32 to 60 inches; very cobbly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
Available water capacity: About 8 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: F021XE240CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lyonman cool and similar soils

Composition: 0 to 4 percent
Slope: 8 to 30 percent
Landform: Backslopes of mountains
Typical vegetation: Forest canopy—Washoe pine
Forest understory—Washoe pine, other shrubs, mountain brome, Ross' sedge, other perennial forbs,

other perennial grasses, Wheeler bluegrass,
roundleaf snowberry
Ecological site: F021XE236CA

Nowack and similar soils

Composition: 0 to 3 percent
Slope: 8 to 30 percent
Landform: Mountain slopes
Typical vegetation: Forest canopy—white fir Forest
understory—other shrubs, white fir, roundleaf
snowberry, mountain brome, Ross' sedge, other
perennial grasses, currant, other perennial forbs
Ecological site: F021XE231CA

Paynepeak and similar soils

Composition: 0 to 3 percent
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Needlegrass, mountain brome,
bluegrass, other perennial grasses, other perennial
forbs, mountain big sagebrush, roundleaf snowberry,
other shrubs
Ecological site: R021XE222CA—Loamy slope

Pyropatti cool and similar soils

Composition: 0 to 3 percent
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Mountain brome, other perennial
forbs, quaking aspen, roundleaf snowberry, mountain
big sagebrush
Ecological site: R021XE216CA—Aspen thicket

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent
Classification: Ashy, glassy Histic Cryaquolls
Slope: 2 to 8 percent
Landform: Mountain slopes
Typical vegetation: Other perennial forbs, willow, water
sedge, Nebraska sedge, tufted hairgrass
Ecological site: R021XE207CA—Wet meadow

Rock outcrop

Composition: 0 to 1 percent
Slope: 4 to 30 percent
Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the
following sections and associated tables in this
publication:
"Range" section

"Forest land" section
"Engineering" and "Soil Properties" sections

449—Lotawaca very gravelly ashy sandy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 6,170 to 8,020
Precipitation: 30 to 50 inches
Air temperature: 37 to 45 degrees Fahrenheit
Frost-free period: 30 to 60 days

Composition

Lotawaca very gravelly ashy sandy loam, cool, 30 to 50
percent slopes—85 percent
Gurlidawg very gravelly ashy sandy loam, cool, 15 to 50
percent slopes—3 percent
Nowack very gravelly mucky ashy loam, cool, 15 to 50
percent slopes—3 percent
Paynepeak gravelly ashy loam, cool, 15 to 50 percent
slopes—3 percent
Pyropatti gravelly ashy loam, cool, 4 to 30 percent
slopes—2 percent
Rock outcrop, 30 to 75 percent slopes—2 percent
Gurlidawg very gravelly ashy sandy loam, cool, 30 to 50
percent slopes—1 percent
Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1
percent

Component Description

Lotawaca and similar soils

Landform: Mountain slopes
Slope: 30 to 50 percent
Parent material: Volcanic ash, colluvium derived from
volcanic rock and residuum weathered from volcanic
rock
Typical vegetation: Forest canopy—white fir Forest
understory—other perennial forbs, white fir, other
shrubs, Wheeler bluegrass, Ross' sedge, western
white pine, sticky currant, western needlegrass, other
annual forbs
Site index: White fir—35 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent gravel, 5
percent cobbles, 5 percent stones
Oi—0 to 1 inches; gravelly moderately decomposed
plant material
Layer 1—1 to 7 inches; very gravelly ashy sandy loam

Layer 2—7 to 20 inches; very gravelly ashy loam
 Layer 3—20 to 40 inches; extremely cobbly ashy loam
 Layer 4—40 to 50 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderate)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: F021XE239CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Gurlidawg and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—lodgepole pine
 Forest understory—bluegrass, Ross' sedge, western needlegrass, other perennial forbs, pinemat manzanita, lodgepole pine, western white pine, other shrubs

Ecological site: F021XE232CA

Nowack and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—white fir, roundleaf snowberry, other shrubs, other perennial forbs, currant, other perennial grasses, Ross' sedge, mountain brome

Ecological site: F021XE231CA

Paynepeak and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Needlegrass, mountain brome, bluegrass, other perennial grasses, roundleaf

snowberry, other shrubs, other perennial forbs, mountain big sagebrush

Ecological site: R021XE222CA—Loamy slope

Pyropatti and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen
 Forest understory—quaking aspen, roundleaf snowberry, mountain big sagebrush, other perennial grasses, slender wheatgrass, other perennial forbs, mountain brome

Ecological site: F021XE233CA

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Gurlidawg cool and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—whitebark pine
 Forest understory—western needlegrass, California needlegrass, Ross' sedge, other perennial grasses, other perennial forbs, whitebark pine, gooseberry currant, other shrubs

Ecological site: F021XE235CA

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, rush, other perennial grasses, sedge, tufted hairgrass

Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

450—Lotawaca very gravelly ashy sandy loam, 4 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 6,680 to 7,750
 Precipitation: 30 to 50 inches
 Air temperature: 37 to 45 degrees Fahrenheit
 Frost-free period: 30 to 60 days

Composition

Lotawaca very gravelly ashy sandy loam, cool, 4 to 30 percent slopes—85 percent
 Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30 percent slopes—3 percent
 Nowack very gravelly mucky ashy loam, cool, 4 to 30 percent slopes—3 percent
 Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—3 percent
 Pyropatti gravelly ashy loam, cool, 4 to 30 percent slopes—2 percent
 Rock outcrop, 30 to 75 percent slopes—2 percent
 Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30 percent slopes—1 percent
 Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1 percent

Component Description

Lotawaca and similar soils

Landform: Mountain slopes
 Slope: 4 to 30 percent
 Parent material: Volcanic ash, colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Forest canopy—white fir Forest understory—white fir, other perennial forbs, sticky currant, western white pine, other annual forbs, other shrubs, western needlegrass, Wheeler bluegrass, Ross' sedge
 Site index: White fir—35 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent gravel, 5 percent cobbles, 5 percent stones
 Oi—0 to 1 inches; very gravelly moderately decomposed plant material
 Layer 1—1 to 7 inches; very gravelly ashy sandy loam
 Layer 2—7 to 20 inches; very gravelly ashy loam
 Layer 3—20 to 40 inches; extremely cobbly ashy loam
 Layer 4—40 to 50 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: F021XE239CA

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Gurlidawg and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—lodgepole pine Forest understory—other shrubs, western needlegrass, Ross' sedge, bluegrass, other perennial forbs, pinemat manzanita, lodgepole pine, western white pine
 Ecological site: F021XE232CA

Nowack and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—white fir Forest understory—Ross' sedge, other shrubs, other perennial grasses, currant, white fir, roundleaf snowberry, mountain brome, other perennial forbs
 Ecological site: F021XE231CA

Paynepeak and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Roundleaf snowberry, other shrubs, mountain brome, mountain big sagebrush, other perennial forbs, other perennial grasses, bluegrass, needlegrass
 Ecological site: R021XE222CA—Loamy slope

Pyropatti and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen

Forest understory—slender wheatgrass, other perennial grasses, mountain brome, other perennial forbs, mountain big sagebrush, quaking aspen, roundleaf snowberry

Ecological site: F021XE233CA

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Gurlidawg cool and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—whitebark pine

Forest understory—western needlegrass, California needlegrass, Ross' sedge, other perennial grasses, other perennial forbs, whitebark pine, gooseberry currant, other shrubs

Ecological site: F021XE235CA

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Sedge, other perennial forbs, other perennial grasses, rush, tufted hairgrass

Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

451—Lyonman gravelly ashy sandy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 4,700 to 8,070

Precipitation: 20 to 25 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

Composition

Lyonman gravelly ashy sandy loam, 30 to 50 percent slopes—85 percent

Nowack very gravelly mucky ashy loam, cool, 8 to 30 percent slopes—5 percent

Warnermount gravelly ashy loam, 4 to 30 percent slopes—3 percent

Welltomas very gravelly ashy loam, cool, 4 to 30 percent slopes—2 percent

Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—1 percent

Histic Cryaquolls muck, cool, 8 to 30 percent slopes—1 percent

Lithic Argixerolls very gravelly ashy loam, cool, 4 to 30 percent slopes—1 percent

Pyropatti gravelly ashy loam, cool, 4 to 30 percent slopes—1 percent

Vitrandic Haploxerolls extremely cobbly ashy loam, cool, 2 to 8 percent slopes—1 percent

Component Description

Lyonman and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Forest canopy—ponderosa pine

Forest understory—roundleaf snowberry, ponderosa pine, Wheeler bluegrass, other perennial grasses, other shrubs, other perennial forbs, Ross' sedge, needlegrass

Site index: Ponderosa pine—75 at an age base of 100 years

Typical profile:

Layer 1—0 to 1 inches; slightly decomposed plant material

Layer 2—1 to 7 inches; gravelly ashy sandy loam

Layer 3—7 to 13 inches; very gravelly ashy sandy loam

Layer 4—13 to 31 inches; very gravelly ashy loam

Layer 5—31 to 56 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 22 to 40 inches

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderate)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: F021XE230CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nowack and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—currant, mountain brome, other perennial forbs, other shrubs, roundleaf snowberry, white fir, other perennial grasses, Ross' sedge

Ecological site: F021XE231CA

Warnermount and similar soils

Composition: 0 to 3 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Bluegrass, needlegrass, mountain brome, antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush

Ecological site: R021XE217CA—Loamy slope

Welltomas and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, low sagebrush, western juniper, bluegrass, other shrubs

Ecological site: R021XE214CA—Claypan

Dawgbuffer and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Bluegrass, mountain big sagebrush, curl-leaf mountain mahogany, roundleaf snowberry, other trees, needlegrass, other perennial forbs, bluebunch wheatgrass, mountain brome

Ecological site: R021XE210CA—Mahogany Savanna

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Rush, other perennial grasses, other perennial forbs, sedge, tufted hairgrass

Ecological site: R021XE226CA—Seep

Lithic Argixerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—western juniper Forest understory—other perennial grasses, Sandberg bluegrass, Thurber's needlegrass, mountain big sagebrush, other perennial forbs, other shrubs, western juniper, antelope bitterbrush

Ecological site: F021XE237CA

Pyropatti cool and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Quaking aspen, roundleaf snowberry, mountain big sagebrush, other perennial forbs, mountain brome

Ecological site: R021XE216CA—Aspen thicket

Vitrandic Haploxerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Vitrandic Haploxerolls

Slope: 2 to 8 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—black cottonwood Forest understory—other shrubs, redosier dogwood, willow, Woods' rose, black cottonwood, other perennial forbs, other annual forbs, other perennial grasses, Kentucky bluegrass, slender wheatgrass

Ecological site: F021XE238CA

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

452—Lyonman gravelly ashy sandy loam, 4 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 4,780 to 7,250
 Precipitation: 20 to 25 inches
 Air temperature: 37 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Lyonman gravelly ashy sandy loam, 4 to 30 percent slopes—85 percent
 Nowack very gravelly mucky ashy loam, cool, 4 to 30 percent slopes—5 percent
 Warnermount gravelly ashy loam, 4 to 30 percent slopes—3 percent
 Welltomas very gravelly ashy loam, cool, 4 to 30 percent slopes—2 percent
 Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—1 percent
 Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1 percent
 Lithic Argixerolls very gravelly ashy loam, cool, 4 to 30 percent slopes—1 percent
 Pyropatti gravelly ashy loam, cool, 4 to 30 percent slopes—1 percent
 Vitrandic Haploxerolls extremely cobbly ashy loam, cool, 2 to 8 percent slopes—1 percent

Component Description

Lyonman and similar soils

Landform: Backslopes of mountains
 Slope: 4 to 30 percent
 Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
 Typical vegetation: Forest canopy—ponderosa pine
 Forest understory—other perennial grasses, ponderosa pine, other shrubs, Wheeler bluegrass, other perennial forbs, roundleaf snowberry, needlegrass, Ross' sedge
 Site index: Ponderosa pine—75 at an age base of 100 years

Typical profile:

Layer 1—0 to 1 inches; slightly decomposed plant material
 Layer 2—1 to 7 inches; gravelly ashy sandy loam
 Layer 3—7 to 13 inches; very gravelly ashy sandy loam
 Layer 4—13 to 31 inches; very gravelly ashy loam
 Layer 5—31 to 56 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 22 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: F021XE230CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nowack and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—white fir
 Forest understory—Ross' sedge, other perennial grasses, currant, other perennial forbs, other shrubs, roundleaf snowberry, white fir, mountain brome
 Ecological site: F021XE231CA

Warnermount and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Needlegrass, mountain brome, bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush
 Ecological site: R021XE217CA—Loamy slope

Welltomas and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, bluegrass, bluebunch wheatgrass, other shrubs, western juniper, low sagebrush
 Ecological site: R021XE214CA—Claypan

Dawgbuffer and similar soils

Composition: 0 to 1 percent
 Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, curl-leaf mountain mahogany, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, bluegrass, mountain brome, needlegrass, other trees

Ecological site: R021XE210CA—Mahogany Savanna

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Sedge, tufted hairgrass, other perennial forbs, rush, other perennial grasses

Ecological site: R021XE226CA—Seep

Lithic Argixerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—western juniper
Forest understory—antelope bitterbrush, western juniper, mountain big sagebrush, other perennial forbs, other perennial grasses, Thurber's needlegrass, other shrubs, Sandberg bluegrass

Ecological site: F021XE237CA

Pyropatti and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen
Forest understory—mountain big sagebrush, roundleaf snowberry, quaking aspen, other perennial forbs, other perennial grasses, mountain brome, slender wheatgrass

Ecological site: F021XE233CA

Vitrantic Haploxerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Vitrantic Haploxerolls

Slope: 2 to 8 percent

Landform: Stream terraces

Typical vegetation: Forest canopy—black cottonwood
Forest understory—redosier dogwood, black cottonwood, other annual forbs, Kentucky bluegrass, slender wheatgrass, other perennial forbs, other perennial grasses, other shrubs, Woods' rose, willow

Ecological site: F021XE238CA

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

453—Lyonman gravelly ashy sandy loam, cool, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,880 to 8,090

Precipitation: 20 to 25 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

Composition

Lyonman gravelly ashy sandy loam, 30 to 50 percent slopes—85 percent

Fendersflat gravelly ashy loam, 15 to 50 percent slopes—4 percent

Pyropatti gravelly ashy loam, cool, 30 to 50 percent slopes—4 percent

Burningman extremely cobbly ashy sandy loam, cool, 30 to 50 percent slopes—2 percent

Paynepeak gravelly ashy loam, cool, 30 to 50 percent slopes—2 percent

Rock outcrop, 30 to 75 percent slopes—2 percent

Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1 percent

Component Description

Lyonman and similar soils

Landform: Backslopes of mountains

Slope: 30 to 50 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Forest canopy—Washoe pine
Forest understory—other perennial forbs, Washoe pine, other shrubs, roundleaf snowberry, mountain brome, Ross' sedge, Wheeler bluegrass, other perennial grasses

Site index: Washoe pine—75 at an age base of 50 years

Typical profile:

Layer 1—0 to 1 inches; slightly decomposed plant material

Layer 2—1 to 7 inches; gravelly ashy sandy loam
 Layer 3—7 to 13 inches; very gravelly ashy sandy loam
 Layer 4—13 to 31 inches; very gravelly ashy loam
 Layer 5—31 to 56 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 22 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: F021XE236CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fendersflat and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Roundleaf snowberry, other shrubs, mountain big sagebrush, other perennial forbs, Sandberg bluegrass, Idaho fescue, other perennial grasses, sedge
 Ecological site: R021XE229CA—Ashy slope

Pyropatti cool and similar soils

Composition: 0 to 4 percent
 Slope: 30 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Mountain brome, other perennial forbs, mountain big sagebrush, quaking aspen, roundleaf snowberry
 Ecological site: R021XE216CA—Aspen thicket

Burningman and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Thurber's needlegrass, Idaho fescue, prairie Junegrass, bluegrass, bluebunch wheatgrass,

other perennial forbs, low sagebrush, western juniper, antelope bitterbrush
 Ecological site: R021XE209CA—Ashy claypan

Paynepeak and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Needlegrass, mountain brome, bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs, roundleaf snowberry
 Ecological site: R021XE222CA—Loamy slope

Rock outcrop

Composition: 0 to 2 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of escarpments

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy Histic Cryaquolls
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, other perennial grasses, rush, tufted hairgrass, sedge
 Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

454—Lyonman gravelly ashy sandy loam, cool, 4 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 6,000 to 8,580
 Precipitation: 20 to 25 inches
 Air temperature: 37 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Lyonman gravelly ashy sandy loam, 4 to 30 percent slopes—85 percent
 Fendersflat gravelly ashy loam, 4 to 30 percent slopes—4 percent

Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—4 percent
 Burningman extremely cobbly ashy sandy loam, cool, 4 to 30 percent slopes—2 percent
 Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—2 percent
 Rock outcrop, 30 to 75 percent slopes—2 percent
 Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1 percent

Component Description

Lyonman cool and similar soils

Landform: Backslopes of mountains

Slope: 4 to 30 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Forest canopy—Washoe pine
 Forest understory—mountain brome, Ross' sedge, Wheeler bluegrass, other perennial grasses, other perennial forbs, Washoe pine, other shrubs, roundleaf snowberry

Site index: Washoe pine—75 at an age base of 50 years

Typical profile:

Layer 1—0 to 1 inches; slightly decomposed plant material

Layer 2—1 to 7 inches; gravelly ashy sandy loam

Layer 3—7 to 13 inches; very gravelly ashy sandy loam

Layer 4—13 to 31 inches; very gravelly ashy loam

Layer 5—31 to 56 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 22 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: F021XE236CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fendersflat and similar soils

Composition: 0 to 4 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Sedge, other perennial grasses, Idaho fescue, Sandberg bluegrass, other perennial forbs, mountain big sagebrush, other shrubs, roundleaf snowberry

Ecological site: R021XE229CA—Ashy slope

Pyropatti cool and similar soils

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Mountain brome, roundleaf snowberry, mountain big sagebrush, quaking aspen, other perennial forbs

Ecological site: R021XE216CA—Aspen thicket

Burningman and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, Thurber's needlegrass, Idaho fescue, prairie Junegrass, bluegrass, bluebunch wheatgrass, antelope bitterbrush, western juniper, low sagebrush

Ecological site: R021XE209CA—Ashy claypan

Paynepeak and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Other perennial grasses, bluegrass, mountain brome, needlegrass, roundleaf snowberry, other perennial forbs, mountain big sagebrush, other shrubs

Ecological site: R021XE222CA—Loamy slope

Rock outcrop

Composition: 0 to 2 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, other perennial grasses, rush, tufted hairgrass, sedge
 Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

455—Macnot very gravelly ashy fine sandy loam, 2 to 8 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,720 to 5,280
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 48 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Macnot very gravelly ashy sandy loam, 2 to 8 percent slopes—85 percent
 Mazuma fine sandy loam, 2 to 8 percent slopes—6 percent
 Schamp stony loam, 2 to 8 percent slopes—5 percent
 McConnel very gravelly sandy loam, 0 to 2 percent slopes—3 percent
 McConnel gravelly fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description

Macnot and similar soils

Landform: Beach terraces
 Slope: 2 to 8 percent
 Parent material: Volcanic ash and alluvium derived from volcanic rocks
 Typical vegetation: Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, Indian ricegrass, other shrubs, spiny hopsage

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
 Layer 2—1 to 6 inches; gravelly ashy sandy loam
 Layer 3—6 to 16 inches; very gravelly ashy sandy loam
 Layer 4—16 to 24 inches; very gravelly ashy loamy sand

Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mazuma and similar soils

Composition: 0 to 6 percent
 Slope: 2 to 8 percent
 Landform: Lake terraces
 Typical vegetation: Bud sagebrush, shadscale, spiny hopsage, other shrubs, bottlebrush squirreltail, Indian ricegrass
 Ecological site: R024XY065NV—Gravelly loam 5-8 P.Z.

Schamp and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Hills
 Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Thurber's needlegrass, Indian ricegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

McConnel and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Beach terraces
 Typical vegetation: Basin big sagebrush, Nevada bluegrass, western wheatgrass, other perennial forbs, basin wildrye
 Ecological site: R023XY005NV—Dry floodplain

McConnel and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Beach terraces

Typical vegetation: Indian ricegrass, Thurber's
needlegrass, Sandberg bluegrass, Wyoming big
sagebrush, other shrubs, spiny hopsage, bottlebrush
squirreltail

Ecological site: R024XY020NV—Droughty loam 8-10
P.Z.

Management

For information about managing this map unit, see the
following sections and associated tables in this
publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

456—Macnot-Glasshawk associaion**Map Unit Setting**

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,810 to 5,160

Precipitation: 6 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Macnot very gravelly ashy sandy loam, 2 to 8 percent
slopes—60 percent

Glasshawk very gravelly ashy loam, 2 to 8 percent
slopes—30 percent

Nomazu ashy very fine sandy loam, 2 to 4 percent
slopes—5 percent

Saraph very gravelly ashy sandy loam, 8 to 15 percent
slopes—3 percent

Nomazu ashy loamy sand, 2 to 8 percent slopes—2
percent

Component Description**Macnot and similar soils**

Landform: Beach terraces

Slope: 2 to 8 percent

Parent material: Volcanic ash and alluvium derived from
volcanic rocks

Typical vegetation: Indian ricegrass, spiny hopsage,
other shrubs, Wyoming big sagebrush, Sandberg

bluegrass, bottlebrush squirreltail, Thurber's
needlegrass

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam

Layer 2—1 to 6 inches; gravelly ashy sandy loam

Layer 3—6 to 16 inches; very gravelly ashy sandy loam

Layer 4—16 to 24 inches; very gravelly ashy loamy sand

Layer 5—24 to 60 inches; stratified extremely gravelly
ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High,
(Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY020NV—Droughty loam 8-10
P.Z.

Component Description**Glasshawk and similar soils**

Landform: Beach terraces

Slope: 2 to 8 percent

Parent material: Volcanic ash and alluvium derived from
mixed igneous & sedimentary rocks

Typical vegetation: Shadscale, other shrubs, bottlebrush
squirreltail, Indian ricegrass, bud sagebrush

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 7 inches; ashy loam

Layer 3—7 to 12 inches; gravelly ashy loam

Layer 4—12 to 48 inches; cemented material

Layer 5—48 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Duripan: 10 to 14 inches

Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)
Sodicity: Sodic within 40 inches
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nomazu moderately saline and similar soils

Composition: 0 to 5 percent
Slope: 2 to 4 percent
Landform: Basin-floor remnants
Typical vegetation: Bottlebrush squirreltail, other perennial grasses, bud sagebrush, shadscale, black greasewood, other shrubs, other perennial forbs
Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Saraph and similar soils

Composition: 0 to 3 percent
Slope: 8 to 15 percent
Landform: Summits of rock pediments
Typical vegetation: Indian ricegrass, other perennial forbs, Wyoming big sagebrush, Thurber's needlegrass, other shrubs, other perennial grasses
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Nomazu and similar soils

Composition: 0 to 2 percent
Slope: 2 to 8 percent
Landform: Basin-floor remnants
Typical vegetation: Spiny hopsage, Wyoming big sagebrush, other shrubs, Sandberg bluegrass, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail
Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

457—Macnot-Gorzell association

Map Unit Setting

MLRA: 23
Landscape: Fan piedmont
Elevation: 4,780 to 5,090
Precipitation: 8 to 10 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Macnot very gravelly ashy sandy loam, 2 to 4 percent slopes—50 percent
Gorzell very gravelly sandy loam, 4 to 15 percent slopes—20 percent
Macnot gravelly ashy sandy loam, 0 to 2 percent slopes—15 percent
Couch ashy fine sandy loam, 0 to 2 percent slopes—4 percent
Mcwatt very stony sandy loam, 4 to 15 percent slopes—4 percent
Nomazu ashy very fine sandy loam, 2 to 8 percent slopes—4 percent
Glasshawk very gravelly ashy loam, 2 to 8 percent slopes—3 percent

Component Description

Macnot and similar soils

Landform: Lower beach terraces
Slope: 2 to 4 percent
Parent material: Volcanic ash and alluvium derived from volcanic rocks
Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
Layer 2—1 to 6 inches; gravelly ashy sandy loam
Layer 3—6 to 16 inches; very gravelly ashy sandy loam
Layer 4—16 to 24 inches; very gravelly ashy loamy sand
Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Component Description

Gorzell and similar soils

Landform: Upper beach terraces
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from mixed-igneous & sedimentary rocks
 Typical vegetation: Indian ricegrass, Sandberg bluegrass, Thurber's needlegrass, spiny hopsage, other shrubs, Wyoming big sagebrush, bottlebrush squirreltail

Typical profile:

Layer 1—0 to 8 inches; very gravelly sandy loam
 Layer 2—8 to 12 inches; gravelly clay loam
 Layer 3—12 to 30 inches; gravelly clay loam
 Layer 4—30 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Component Description

Macnot nearly level and similar soils

Landform: Inset fans
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and alluvium derived from volcanic rocks

Typical vegetation: Thickspike wheatgrass, basin wildrye, big sagebrush, other perennial forbs, other shrubs, spiny hopsage

Typical profile:

Layer 1—0 to 1 inches; gravelly ashy sandy loam
 Layer 2—1 to 6 inches; gravelly ashy sandy loam
 Layer 3—6 to 16 inches; very gravelly ashy sandy loam
 Layer 4—16 to 24 inches; very gravelly ashy loamy sand
 Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.
 Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Couch and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Summits of basin-floor remnants
 Typical vegetation: Other shrubs, spiny hopsage, big sagebrush, other perennial forbs, other perennial grasses, basin wildrye, bottlebrush squirreltail, black greasewood
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Mcwatt and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Beach terraces, rock pediments
 Typical vegetation: Other shrubs, Sandberg bluegrass, spiny hopsage, Wyoming big sagebrush, bottlebrush squirreltail, Thurber's needlegrass, Indian ricegrass
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Nomazu and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Basin-floor remnants

Typical vegetation: Bud sagebrush, winterfat, bottlebrush squirreltail, Indian ricegrass

Ecological site: R024XY004NV—Silty 4-8 P.Z.

Glasshawk and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Beach terraces

Typical vegetation: Bottlebrush squirreltail, Indian ricegrass, shadscale, other shrubs, bud sagebrush

Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

458—Macnot-Jesayno-Nevadash association**Map Unit Setting**

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,490 to 5,940

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Macnot gravelly ashy sandy loam, 0 to 2 percent slopes—50 percent

Jesayno ashy silt loam, 0 to 2 percent slopes—20 percent

Nevadash gravelly ashy sandy loam, 0 to 4 percent slopes—15 percent

Weezweed ashy loam, 0 to 2 percent slopes—8 percent

Emagert ashy loam, 0 to 2 percent slopes—6 percent

Wetvit ashy fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description**Macnot nearly level and similar soils**

Landform: Alluvial fans

Slope: 0 to 2 percent

Parent material: Volcanic ash and alluvium derived from volcanic rocks

Typical vegetation: Thickspike wheatgrass, basin wildrye, big sagebrush, other perennial forbs, other shrubs, spiny hopsage

Typical profile:

Layer 1—0 to 1 inches; gravelly ashy sandy loam

Layer 2—1 to 6 inches; gravelly ashy sandy loam

Layer 3—6 to 16 inches; very gravelly ashy sandy loam

Layer 4—16 to 24 inches; very gravelly ashy loamy sand

Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Component Description**Jesayno and similar soils**

Landform: Inset fans

Slope: 0 to 2 percent

Parent material: Volcanic ash and alluvium over lacustrine deposits

Typical vegetation: Basin wildrye, other perennial forbs, western wheatgrass, Nevada bluegrass, basin big sagebrush

Typical profile:

Layer 1—0 to 12 inches; ashy silt loam

Layer 2—12 to 24 inches; ashy silt loam

Layer 3—24 to 41 inches; ashy silt loam

Layer 4—41 to 60 inches; ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 11 inches

Present flooding: Occasional
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R023XY005NV—Dry floodplain

Component Description

Nevadash and similar soils

Landform: Fan aprons
 Slope: 0 to 4 percent
 Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock
 Typical vegetation: Spiny hopsage, other perennial forbs, big sagebrush, basin wildrye, thickspike wheatgrass, other shrubs

Typical profile:

Layer 1—0 to 2 inches; gravelly ashy sandy loam
 Layer 2—2 to 5 inches; ashy sandy clay loam
 Layer 3—5 to 17 inches; ashy sandy clay loam
 Layer 4—17 to 28 inches; ashy fine sandy loam
 Layer 5—28 to 44 inches; ashy fine sandy loam
 Layer 6—44 to 68 inches; gravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e
 Nonirrigated land capability: 6c
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Weezweed and similar soils

Composition: 0 to 8 percent

Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Basin wildrye, other perennial forbs, western wheatgrass, Nevada bluegrass, basin big sagebrush
 Ecological site: R023XY005NV—Dry floodplain

Emagert and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Basin big sagebrush, other perennial forbs, other perennial grasses, Nevada bluegrass, basin wildrye
 Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Wetvit and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Typical vegetation: Other perennial grasses, other perennial forbs, Nevada bluegrass, creeping wildrye, sedge
 Ecological site: R023XY089NV—Wet meadow 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

459—Macnot-Mcwatt-Old Camp association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,580 to 5,170
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Macnot gravelly ashy sandy loam, 2 to 8 percent slopes—40 percent

Mcwatt very gravelly fine sandy loam, 8 to 15 percent slopes—25 percent

Old Camp very stony sandy loam, 8 to 30 percent slopes—25 percent

Bombadil very gravelly sandy loam, 4 to 15 percent slopes—5 percent

Saraph very gravelly ashy sandy loam, 8 to 30 percent slopes—5 percent

Component Description

Macnot and similar soils

Landform: Beach terraces

Slope: 2 to 8 percent

Parent material: Volcanic ash and alluvium derived from volcanic rocks

Typical vegetation: Thickspike wheatgrass, big sagebrush, other perennial forbs, other shrubs, spiny hopsage, basin wildrye

Typical profile:

Layer 1—0 to 1 inches; gravelly ashy sandy loam

Layer 2—1 to 6 inches; gravelly ashy sandy loam

Layer 3—6 to 16 inches; very gravelly ashy sandy loam

Layer 4—16 to 24 inches; very gravelly ashy loamy sand

Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Component Description

Mcwatt and similar soils

Landform: Beach terraces

Slope: 8 to 15 percent

Parent material: Alluvium derived from igneous and sedimentary rock

Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, spiny hopsage, other shrubs

Typical profile:

Layer 1—0 to 10 inches; very gravelly fine sandy loam

Layer 2—10 to 20 inches; extremely gravelly fine sandy loam

Layer 3—20 to 44 inches; extremely gravelly sand

Layer 4—44 to 54 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Component Description

Old Camp and similar soils

Landform: Backslopes of plateaus

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Indian ricegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 2 inches; very stony sandy loam

Layer 2—2 to 14 inches; extremely stony clay loam

Layer 3—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bombadil and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Plateaus
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other shrubs, Wyoming big sagebrush, other perennial forbs
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Saraph and similar soils

Composition: 0 to 5 percent
 Slope: 8 to 30 percent
 Landform: Summits of rock pediments
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

460—Macnot-Nomazu complex

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,480 to 5,730
 Precipitation: 5 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Macnot very gravelly ashy sandy loam, 2 to 4 percent slopes—50 percent

Macnot gravelly ashy sandy loam, 0 to 2 percent slopes—20 percent
 Nomazu ashy very fine sandy loam, 0 to 4 percent slopes—15 percent
 Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—7 percent
 Jesayno ashy silt loam, 0 to 2 percent slopes—6 percent
 Skedaddle very gravelly sandy loam, 4 to 30 percent slopes—2 percent

Component Description

Macnot and similar soils

Landform: Beach terraces
 Slope: 2 to 4 percent
 Parent material: Volcanic ash and alluvium derived from volcanic rocks
 Typical vegetation: Other shrubs, Wyoming big sagebrush, Sandberg bluegrass, bottlebrush squirreltail, Thurber's needlegrass, Indian ricegrass, spiny hopsage

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
 Layer 2—1 to 6 inches; gravelly ashy sandy loam
 Layer 3—6 to 16 inches; very gravelly ashy sandy loam
 Layer 4—16 to 24 inches; very gravelly ashy loamy sand
 Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Component Description

Macnot nearly level and similar soils

Landform: Alluvial fans
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and alluvium derived from volcanic rocks

Typical vegetation: Big sagebrush, spiny hopsage, other shrubs, other perennial forbs, basin wildrye, thickspike wheatgrass

Typical profile:

Layer 1—0 to 1 inches; gravelly ashy sandy loam
 Layer 2—1 to 6 inches; gravelly ashy sandy loam
 Layer 3—6 to 16 inches; very gravelly ashy sandy loam
 Layer 4—16 to 24 inches; very gravelly ashy loamy sand
 Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Component Description

Nomazu moderately saline and similar soils

Landform: Basin-floor remnants
 Slope: 0 to 4 percent
 Parent material: Volcanic ash and alluvium derived from mixed-igneous & sedimentary rocks
 Typical vegetation: Bottlebrush squirreltail, other shrubs, black greasewood, shadscale, other perennial grasses, other perennial forbs, bud sagebrush

Typical profile:

Layer 1—0 to 7 inches; ashy very fine sandy loam
 Layer 2—7 to 10 inches; ashy very fine sandy loam
 Layer 3—10 to 13 inches; ashy fine sandy loam
 Layer 4—13 to 29 inches; ashy very fine sandy loam
 Layer 5—29 to 38 inches; ashy fine sandy loam
 Layer 6—38 to 48 inches; very paragravelly ashy fine sandy loam
 Layer 7—48 to 60 inches; very paragravelly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
 Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nevadash and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 4 percent
 Landform: Fan remnants
 Typical vegetation: Thickspike wheatgrass, basin wildrye, spiny hopsage, other shrubs, other perennial forbs, big sagebrush
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Jesayno and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Western wheatgrass, basin wildrye, other perennial forbs, Nevada bluegrass, basin big sagebrush
 Ecological site: R023XY005NV—Dry floodplain

Skedaddle and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 30 percent
 Landform: Backslopes of hills
 Typical vegetation: Wyoming big sagebrush, other perennial forbs, other shrubs, bottlebrush squirreltail, other perennial grasses, Indian ricegrass
 Ecological site: R023XY088NV—Chalky knoll

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

461—Madeline-Sumine association**Map Unit Setting**

MLRA: 21

Landscape: Mountains

Elevation: 5,800 to 6,430

Precipitation: 12 to 14 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 70 to 80 days

Composition

Madeline very stony loam, 9 to 30 percent slopes—45 percent

Sumine cobbly loam, 9 to 30 percent slopes—40 percent

Jauriga gravelly loam, 9 to 15 percent slopes—5 percent

Orhood very stony loam, 9 to 30 percent slopes—5 percent

Brubeck very cobbly clay, 15 to 30 percent slopes—5 percent

Component Description**Madeline and similar soils**

Landform: Backslopes of mountains

Slope: 9 to 30 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Idaho fescue, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 20 percent stones

Layer 1—0 to 5 inches; very stony loam

Layer 2—5 to 9 inches; gravelly clay

Layer 3—9 to 16 inches; gravelly clay

Layer 4—16 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R021XE174CA—Stony loam 12-16"

Component Description**Sumine and similar soils**

Landform: North facing backslopes of mountains

Slope: 9 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Other shrubs, Thurber's needlegrass, other perennial forbs, Idaho fescue, bluegrass, mountain big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 10 percent cobbles

Layer 1—0 to 5 inches; cobbly loam

Layer 2—5 to 11 inches; very gravelly loam

Layer 3—11 to 24 inches; very cobbly clay loam

Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE176CA—Loam 12-16"

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Jauriga and similar soils**

Composition: 0 to 5 percent

Slope: 9 to 15 percent, south aspect

Landform: South facing backslopes of mountains

Typical vegetation: Bluebunch wheatgrass, Idaho fescue, antelope bitterbrush, needlegrass, mountain big sagebrush
 Ecological site: R021XE176CA—Loam 12-16"

Orhood and similar soils

Composition: 0 to 5 percent
 Slope: 9 to 30 percent
 Landform: Ridges

Typical vegetation: Forest canopy—western juniper
 Forest understory—mountain big sagebrush, arrowleaf balsamroot, antelope bitterbrush, Sandberg bluegrass, Lemmon needlegrass, bluebunch wheatgrass, Thurber's needlegrass, rabbitbrush, Idaho fescue

Ecological site: R021XE174CA—Stony loam 12-16"

Brubeck and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Mountains

Typical vegetation: Littleleaf horsebrush, Thurber's needlegrass, beardless wildrye, Washoe rubber rabbitbrush, big sagebrush, western wheatgrass, bottlebrush squirreltail

Ecological site: R023XF084CA—Clay upland 9-16"

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Forest land" section
- "Engineering" and "Soil Properties" sections

462—Mazuma-Bighat association

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,480 to 5,870
 Precipitation: 5 to 7 inches
 Air temperature: 46 to 51 degrees Fahrenheit
 Frost-free period: 90 to 110 days

Composition

Mazuma fine sandy loam, 2 to 4 percent slopes—50 percent
 Bighat cobbly sandy loam, 4 to 15 percent slopes—35 percent

Mazuma fine sandy loam, 2 to 8 percent slopes—8 percent
 Raglan fine sandy loam, 0 to 4 percent slopes—7 percent

Component Description

Mazuma and similar soils

Landform: Lake terraces
 Slope: 2 to 4 percent
 Parent material: Alluvium and lacustrine deposits
 Typical vegetation: Spiny hopsage, shadscale, bud sagebrush, other shrubs, bottlebrush squirreltail, Indian ricegrass

Typical profile:

Layer 1—0 to 6 inches; fine sandy loam
 Layer 2—6 to 62 inches; stratified gravelly coarse sand to silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e
 Nonirrigated land capability: 7c
 Ecological site: R024XY065NV—Gravelly loam 5-8 P.Z.

Component Description

Bighat and similar soils

Landform: Beach terraces
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from mixed rocks
 Typical vegetation: Shadscale, bottlebrush squirreltail, Indian ricegrass, other shrubs, bud sagebrush

Typical profile:

Surface rock fragments: About 6 percent stones, 13 percent cobbles, 15 percent gravel
 Layer 1—0 to 2 inches; cobbly sandy loam
 Layer 2—2 to 9 inches; stony loam
 Layer 3—9 to 16 inches; stony sandy clay loam
 Layer 4—16 to 31 inches; extremely stony coarse sand

Layer 5—31 to 60 inches; extremely gravelly coarse sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Sodicity: Sodic within 40 inches

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mazuma alkali and similar soils

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Lake terraces

Typical vegetation: Bottlebrush squirreltail, other perennial grasses, other perennial forbs, bud sagebrush, shadscale, black greasewood, other shrubs

Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Raglan and similar soils

Composition: 0 to 7 percent

Slope: 0 to 4 percent

Landform: Lake terraces

Typical vegetation: Other shrubs, black greasewood, shadscale, bud sagebrush, other perennial forbs, other perennial grasses, bottlebrush squirreltail

Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

463—Mcwatt-Old Camp association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,590 to 5,870

Precipitation: 8 to 11 inches

Air temperature: 44 to 47 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Mcwatt extremely stony fine sandy loam, 8 to 30 percent slopes—50 percent

Old Camp very stony loam, 8 to 30 percent slopes—35 percent

Rubble land, 30 to 75 percent slopes—7 percent

Langston very gravelly sandy loam, 2 to 8 percent slopes—5 percent

Aridic Argixerolls very stony loam, 15 to 50 percent slopes—2 percent

Fernpoint very cobbly sandy loam, 15 to 30 percent slopes—1 percent

Component Description

Mcwatt and similar soils

Landform: Plateaus

Slope: 8 to 30 percent

Parent material: Alluvium derived from igneous and sedimentary rock

Typical vegetation: Other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush, other perennial forbs, other shrubs

Typical profile:

Surface rock fragments: About 36 percent gravel, 20 percent stones, 16 percent cobbles

Layer 1—0 to 10 inches; extremely stony fine sandy loam

Layer 2—10 to 20 inches; extremely gravelly fine sandy loam

Layer 3—20 to 44 inches; extremely cobbly loamy sand

Layer 4—44 to 54 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Old Camp and similar soils

Landform: Plateaus
 Slope: 8 to 30 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Other shrubs, Wyoming big sagebrush, other perennial forbs, other perennial grasses, Thurber's needlegrass, Indian ricegrass

Typical profile:

Surface rock fragments: About 23 percent stones, 10 percent cobbles, 18 percent gravel
 Layer 1—0 to 2 inches; very stony loam
 Layer 2—2 to 14 inches; extremely stony clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 7 percent
 Slope: 30 to 75 percent
 Landform: Escarpments

Langston and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Longshore bar (relict)s
 Typical vegetation: Other perennial forbs, Wyoming big sagebrush, Thurber's needlegrass, Indian ricegrass, other shrubs, other perennial grasses
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Aridic Argixerolls and similar soils

Composition: 0 to 2 percent
 Classification: Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls
 Slope: 15 to 50 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Perennial grasses
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Fernpoint and similar soils

Composition: 0 to 1 percent
 Slope: 15 to 30 percent
 Landform: Beach terraces
 Typical vegetation: Big sagebrush, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

464—Mcwatt-Skedaddle association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,730 to 5,680
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 80 to 110 days

Composition

Mcwatt very gravelly fine sandy loam, 4 to 15 percent slopes—50 percent
 Skedaddle very gravelly sandy loam, 4 to 30 percent slopes—40 percent
 Pegler ashy fine sandy loam, 0 to 2 percent slopes—4 percent
 Gorzell very gravelly sandy loam, 4 to 15 percent slopes—2 percent

Macrot very gravelly ashy sandy loam, 2 to 4 percent slopes—2 percent

Macrot gravelly ashy sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Mcwatt and similar soils

Landform: Beach terraces

Slope: 4 to 15 percent

Parent material: Alluvium derived from igneous and sedimentary rock

Typical vegetation: Sandberg bluegrass, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, spiny hopsage, Wyoming big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 10 inches; very gravelly fine sandy loam
Layer 2—10 to 20 inches; extremely gravelly fine sandy loam

Layer 3—20 to 44 inches; extremely gravelly sand

Layer 4—44 to 54 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Component Description

Skedaddle and similar soils

Landform: Plateaus

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 10 inches; very gravelly loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 4 to 12 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Pegler and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Rock pediments

Typical vegetation: Sandberg bluegrass, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Wyoming big sagebrush, other shrubs, spiny hopsage

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Gozell and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Beach terraces

Typical vegetation: Spiny hopsage, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Macnot and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent
 Landform: Beach terraces
 Typical vegetation: Other shrubs, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, spiny hopsage
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Macrot nearly level and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Spiny hopsage, thickspike wheatgrass, basin wildrye, big sagebrush, other perennial forbs, other shrubs
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

465—Medved gravelly sandy loam, 4 to 15 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,880 to 5,280
 Precipitation: 8 to 12 inches
 Air temperature: 46 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Medved gravelly sandy loam, 4 to 15 percent slopes—90 percent
 Cormol very cobbly ashy loam, 15 to 30 percent slopes—3 percent
 Valmy fine sandy loam, 2 to 8 percent slopes—3 percent
 Gorzell very gravelly sandy loam, 4 to 15 percent slopes—2 percent
 Saraph gravelly ashy loam, 4 to 30 percent slopes—2 percent

Component Description

Medved and similar soils
 Landform: Rock pediments
 Slope: 4 to 15 percent
 Parent material: Residuum weathered from metasedimentary rock

Typical vegetation: Indian ricegrass, other shrubs, other perennial forbs, Wyoming big sagebrush, squaw apple, thickspike wheatgrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 5 inches; gravelly sandy loam
 Layer 2—5 to 9 inches; gravel
 Layer 3—9 to 19 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 5 to 10 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 0.8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY099NV—Channery hill 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cormol and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent, east to southwest aspects
 Landform: East to southwest aspects on backslopes of plateaus
 Typical vegetation: Basin wildrye, antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, Thurber's needlegrass
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Valmy and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 8 percent
 Landform: Fan skirts
 Typical vegetation: Other shrubs, spiny hopsage, big sagebrush, bottlebrush squirreltail, black greasewood, other perennial grasses, basin wildrye, other perennial forbs
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Gorzell and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Beach terraces

Typical vegetation: Wyoming big sagebrush, other shrubs, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Saraph and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Summits of rock pediments

Typical vegetation: Other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

466—Menbo-Softscrabble-Badgercamp association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 6,010 to 6,910

Precipitation: 12 to 20 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 40 to 90 days

Composition

Menbo cobbly loam, 15 to 50 percent slopes—40 percent

Softscrabble cobbly loam, 30 to 50 percent slopes—30 percent

Badgercamp bouldery loam, 8 to 30 percent slopes—20 percent

Dosie very gravelly loam, 15 to 50 percent slopes—6 percent

Hart Camp stony loam, moist, 4 to 15 percent slopes—2 percent

Ninemile very stony loam, 4 to 15 percent slopes—2 percent

Component Description**Menbo and similar soils**

Landform: Plateaus

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from tuffaceous rocks

Typical vegetation: Needlegrass, antelope bitterbrush, mountain big sagebrush, Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 6 inches; cobbly loam

Layer 2—6 to 26 inches; very cobbly clay

Layer 3—26 to 36 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Component Description**Softscrabble and similar soils**

Landform: Plateaus

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Basin wildrye, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, mountain big sagebrush, needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 6 percent cobbles, 11 percent gravel, 3 percent fine gravel

Layer 1—0 to 20 inches; cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 80 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Component Description

Badgercamp and similar soils

Landform: Shoulders of plateaus

Slope: 8 to 30 percent

Parent material: Residuum derived from tuffaceous rocks

Typical vegetation: Curlleaf mountainmahogany, mountain big sagebrush, Cusick's bluegrass, bluebunch wheatgrass, Idaho fescue, needlegrass

Typical profile:

Surface rock fragments: About 7 percent boulders

Layer 1—0 to 5 inches; bouldery loam

Layer 2—5 to 15 inches; extremely gravelly loam

Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 1.6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY026NV—Mahogany Savanna

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dosie and similar soils

Composition: 0 to 6 percent

Slope: 15 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Basin wildrye, bluebunch wheatgrass, needlegrass, mountain big sagebrush

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Hart Camp moist and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Plateaus

Typical vegetation: Basin wildrye, needlegrass, Idaho fescue, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Ninemile and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, low sagebrush, other shrubs, other perennial forbs

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

467—Nevadash ashy fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,520 to 4,590

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Nevadash ashy fine sandy loam, dry, 0 to 2 percent slopes—90 percent

Raglan very fine sandy loam, 0 to 2 percent slopes—5 percent

Surprise gravelly ashy sandy loam, 0 to 2 percent slopes—5 percent

Component Description

Nevadash and similar soils

Landform: Fan aprons, lake plains

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock

Typical vegetation: Other perennial forbs, Thurber's needlegrass, other shrubs, Wyoming big sagebrush, other perennial grasses, Indian ricegrass

Typical profile:

Layer 1—0 to 2 inches; ashy fine sandy loam

Layer 2—2 to 5 inches; ashy sandy clay loam

Layer 3—5 to 17 inches; ashy sandy clay loam

Layer 4—17 to 28 inches; ashy fine sandy loam

Layer 5—28 to 44 inches; ashy fine sandy loam

Layer 6—44 to 68 inches; gravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6c

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Raglan and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other shrubs, bud sagebrush, shadscale

Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Surprise and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Big sagebrush, bluegrass, Thurber's needlegrass, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush, other shrubs
Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

468—Nevadash ashy fine sandy loam, 2 to 5 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,480 to 4,630

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Nevadash ashy fine sandy loam, dry, 2 to 5 percent slopes—90 percent

Raglan very fine sandy loam, 0 to 2 percent slopes—4 percent

Surprise gravelly ashy sandy loam, 0 to 2 percent slopes—4 percent

Hussa ashy clay loam, 0 to 2 percent slopes—2 percent

Component Description

Nevadash and similar soils

Landform: Fan aprons, lake plains

Slope: 2 to 5 percent

Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 2 inches; ashy fine sandy loam

Layer 2—2 to 5 inches; ashy sandy clay loam

Layer 3—5 to 17 inches; ashy sandy clay loam

Layer 4—17 to 28 inches; ashy fine sandy loam

Layer 5—28 to 44 inches; ashy fine sandy loam

Layer 6—44 to 68 inches; gravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderate)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e
 Nonirrigated land capability: 6c
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Raglan and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Other shrubs, shadscale, bud sagebrush, bottlebrush squirreltail, Indian ricegrass
 Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Surprise and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Fan remnants
 Typical vegetation: Other perennial forbs, antelope bitterbrush, other shrubs, big sagebrush, Thurber's needlegrass, bluebunch wheatgrass, bluegrass
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Hussa and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

469—Nevadash ashy loamy fine sand, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,550 to 4,700
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Nevadash ashy loamy fine sand, dry, 0 to 2 percent slopes—85 percent
 Donica gravelly ashy sandy loam, 2 to 5 percent slopes—5 percent
 Surprise gravelly ashy sandy loam, 0 to 2 percent slopes—5 percent
 Zorravista fine sand, 0 to 15 percent slopes—5 percent

Component Description

Nevadash and similar soils

Landform: Fan aprons, lake plains
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock
 Typical vegetation: Other shrubs, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 2 inches; ashy loamy fine sand
 Layer 2—2 to 5 inches; ashy sandy clay loam
 Layer 3—5 to 17 inches; ashy sandy clay loam
 Layer 4—17 to 28 inches; ashy fine sandy loam
 Layer 5—28 to 44 inches; ashy fine sandy loam
 Layer 6—44 to 68 inches; gravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderate)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6c
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Donica and similar soils

Composition: 0 to 5 percent
Slope: 2 to 5 percent
Landform: Lake terraces
Typical vegetation: Thurber's needlegrass, big sagebrush, bluegrass, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush, other shrubs
Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Surprise and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Fan remnants
Typical vegetation: Other perennial forbs, bluebunch wheatgrass, antelope bitterbrush, other shrubs, Thurber's needlegrass, big sagebrush, bluegrass
Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Zorravista and similar soils

Composition: 0 to 5 percent
Slope: 0 to 15 percent
Landform: Dunes
Typical vegetation: Other perennial forbs, basin wildrye, basin big sagebrush, fourwing saltbush, Indian ricegrass, spiny hopsage, other shrubs
Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

470—Nevadash-Couch association

Map Unit Setting

MLRA: 23
Landscape: Basin

Elevation: 4,520 to 5,750
Precipitation: 8 to 10 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—60 percent
Couch ashy fine sandy loam, 2 to 4 percent slopes—25 percent
Couch ashy loamy sand, 2 to 4 percent slopes—7 percent
Zorravista fine sand, 4 to 15 percent slopes—6 percent
Macnot very gravelly ashy sandy loam, 2 to 4 percent slopes—2 percent

Component Description

Nevadash and similar soils

Landform: Fan aprons, lake plains
Slope: 2 to 4 percent
Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock
Typical vegetation: Other shrubs, spiny hopsage, big sagebrush, basin wildrye, thickspike wheatgrass, other perennial forbs

Typical profile:

Layer 1—0 to 2 inches; gravelly ashy sandy loam
Layer 2—2 to 5 inches; ashy sandy clay loam
Layer 3—5 to 17 inches; ashy sandy clay loam
Layer 4—17 to 28 inches; ashy fine sandy loam
Layer 5—28 to 44 inches; ashy fine sandy loam
Layer 6—44 to 68 inches; gravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
Available water capacity: About 8 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e
Nonirrigated land capability: 6c
Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Component Description

Couch and similar soils

Landform: Summits of basin-floor remnants

Slope: 2 to 4 percent

Parent material: Volcanic ash and/or alluvium derived from volcanic rock

Typical vegetation: Basin wildrye, other shrubs, bottlebrush squirreltail, other perennial grasses, black greasewood, other perennial forbs, big sagebrush, spiny hopsage

Typical profile:

Layer 1—0 to 1 inches; ashy fine sandy loam

Layer 2—1 to 6 inches; clay

Layer 3—6 to 13 inches; clay loam

Layer 4—13 to 22 inches; clay loam

Layer 3—22 to 60 inches; stratified ashy sandy loam to ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Couch and similar soils

Composition: 0 to 7 percent

Slope: 2 to 4 percent

Landform: Summits of basin-floor remnants, drainageways

Typical vegetation: Basin wildrye, other perennial grasses, other perennial forbs, black greasewood, other shrubs, big sagebrush, spiny hopsage, bottlebrush squirreltail

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Zorravista and similar soils

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Dunes

Typical vegetation: Basin big sagebrush, fourwing saltbush, spiny hopsage, other shrubs, other perennial forbs, Indian ricegrass, basin wildrye

Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Macnot and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Beach terraces

Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

471—Nevadash-Gorzell association

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,500 to 5,130

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—50 percent

Gorzell very gravelly sandy loam, 2 to 8 percent slopes—35 percent

Couch ashy fine sandy loam, 2 to 4 percent slopes—7 percent

Davey loamy fine sand, 2 to 8 percent slopes—4 percent

Zorravista fine sand, 4 to 15 percent slopes—4 percent

Component Description

Nevadash and similar soils

Landform: Fan aprons, lake plains

Slope: 2 to 4 percent
 Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock
 Typical vegetation: Other perennial forbs, big sagebrush, other shrubs, basin wildrye, spiny hopsage, thickspike wheatgrass

Typical profile:

Layer 1—0 to 2 inches; gravelly ashy sandy loam
 Layer 2—2 to 5 inches; ashy sandy clay loam
 Layer 3—5 to 17 inches; ashy sandy clay loam
 Layer 4—17 to 28 inches; ashy fine sandy loam
 Layer 5—28 to 44 inches; ashy fine sandy loam
 Layer 6—44 to 68 inches; gravelly ashy sandy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e
 Nonirrigated land capability: 6c
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Component Description

Gorzell and similar soils

Landform: Beach terraces
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from mixed-igneous & sedimentary rocks
 Typical vegetation: Other shrubs, Wyoming big sagebrush, Sandberg bluegrass, bottlebrush squirreltail, Thurber's needlegrass, spiny hopsage, Indian ricegrass

Typical profile:

Layer 1—0 to 8 inches; very gravelly sandy loam
 Layer 2—8 to 12 inches; gravelly clay loam
 Layer 3—12 to 30 inches; gravelly clay loam
 Layer 4—30 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Couch and similar soils

Composition: 0 to 7 percent
 Slope: 2 to 4 percent
 Landform: Summits of basin-floor remnants
 Typical vegetation: Other shrubs, black greasewood, spiny hopsage, big sagebrush, other perennial grasses, bottlebrush squirreltail, basin wildrye, other perennial forbs
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Davey and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 8 percent
 Landform: Sand sheets
 Typical vegetation: Spiny hopsage, big sagebrush, other perennial forbs, needleandthread, Thurber's needlegrass, Indian ricegrass
 Ecological site: R023XY051NV—Sandy 8-12 P.Z.

Zorravista and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Dunes
 Typical vegetation: Spiny hopsage, other shrubs, Indian ricegrass, basin wildrye, other perennial forbs, basin big sagebrush, fourwing saltbush
 Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6c

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

472—Nevadash-Jesayno association**Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 4,570 to 5,310

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Nevadash gravelly ashy sandy loam, 0 to 2 percent slopes—60 percent

Jesayno ashy silt loam, 0 to 2 percent slopes—25 percent

Gorzell very gravelly sandy loam, 2 to 8 percent slopes—6 percent

Couch ashy silt loam, 0 to 2 percent slopes—5 percent

Valmy fine sandy loam, 2 to 4 percent slopes—4 percent

Component Description**Nevadash and similar soils**

Landform: Fan aprons, lake plains

Slope: 0 to 2 percent

Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock

Typical vegetation: Thickspike wheatgrass, basin wildrye, big sagebrush, other perennial forbs, other shrubs, spiny hopsage

Typical profile:

Layer 1—0 to 2 inches; gravelly ashy sandy loam

Layer 2—2 to 5 inches; ashy sandy clay loam

Layer 3—5 to 17 inches; ashy sandy clay loam

Layer 4—17 to 28 inches; ashy fine sandy loam

Layer 5—28 to 44 inches; ashy fine sandy loam

Layer 6—44 to 68 inches; gravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Component Description**Jesayno and similar soils**

Landform: Inset fans

Slope: 0 to 2 percent

Parent material: Volcanic ash and alluvium over lacustrine deposits

Typical vegetation: Basin wildrye, other perennial forbs, western wheatgrass, Nevada bluegrass, basin big sagebrush

Typical profile:

Layer 1—0 to 12 inches; ashy silt loam

Layer 2—12 to 24 inches; ashy silt loam

Layer 3—24 to 41 inches; ashy silt loam

Layer 4—41 to 60 inches; ashy silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 11 inches

Present flooding: Occasional

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R023XY005NV—Dry floodplain

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Gorzell and similar soils**

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Beach terraces

Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg

bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Couch and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Summits of basin-floor remnants

Typical vegetation: Bottlebrush squirreltail, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, spiny hopsage, black greasewood, other shrubs

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Valmy and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Bottlebrush squirreltail, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, spiny hopsage, black greasewood, other shrubs

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

473—Nevadash-Saraph association

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,730 to 5,060

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—60 percent

Saraph very gravelly ashy sandy loam, 4 to 15 percent slopes—25 percent

Gozell very gravelly sandy loam, 2 to 8 percent slopes—8 percent

Couch ashy fine sandy loam, 0 to 2 percent slopes—7 percent

Component Description

Nevadash and similar soils

Landform: Fan aprons, lake plains

Slope: 2 to 4 percent

Parent material: Volcanic ash and/or alluvium derived from igneous and sedimentary rock

Typical vegetation: Big sagebrush, other perennial forbs, other shrubs, spiny hopsage, basin wildrye, thickspike wheatgrass

Typical profile:

Layer 1—0 to 2 inches; gravelly ashy sandy loam

Layer 2—2 to 5 inches; ashy sandy clay loam

Layer 3—5 to 17 inches; ashy sandy clay loam

Layer 3—17 to 28 inches; ashy sandy loam

Layer 5—28 to 44 inches; ashy sandy loam

Layer 6—44 to 68 inches; gravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderate)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 6c

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Component Description

Saraph and similar soils

Landform: Summits of rock pediments

Slope: 4 to 15 percent

Parent material: Residuum weathered from tuff

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam

Layer 2—4 to 9 inches; ashy sandy loam

Layer 3—9 to 16 inches; ashy clay loam

Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Gorzell and similar soils

Composition: 0 to 8 percent

Slope: 2 to 8 percent

Landform: Beach terraces

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Thurber's needlegrass

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Couch and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Summits of basin-floor remnants

Typical vegetation: Spiny hopsage, big sagebrush, other perennial forbs, other perennial grasses, black greasewood, other shrubs, basin wildrye, bottlebrush squirreltail

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

474—Newlands-Menbo association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,900 to 6,560

Precipitation: 12 to 16 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 30 to 90 days

Composition

Newlands gravelly loam, 4 to 30 percent slopes—50 percent

Menbo very gravelly loam, 8 to 30 percent slopes—35 percent

Hartig gravelly loam, 8 to 30 percent slopes—8 percent

Hart Camp gravelly loam, 4 to 30 percent slopes—6 percent

Badgercamp very cobbly loam, 15 to 30 percent slopes—1 percent

Component Description

Newlands and similar soils

Landform: Backslopes of plateaus

Slope: 4 to 30 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Melic, mountain brome, needlegrass, other perennial forbs, other shrubs, Idaho fescue, mountain big sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones, 5 percent cobbles, 15 percent gravel

Layer 1—0 to 6 inches; gravelly loam

Layer 2—6 to 41 inches; gravelly clay loam

Layer 3—41 to 51 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Component Description**Menbo and similar soils**

Landform: Shoulders of plateaus

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from tuffaceous rocks

Typical vegetation: Bluebunch wheatgrass, basin wildrye, Idaho fescue, needlegrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 7 inches; gravelly loam

Layer 3—7 to 36 inches; very cobbly clay

Layer 4—36 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Hartig and similar soils**

Composition: 0 to 8 percent

Slope: 8 to 30 percent, southeast to west aspects

Landform: Southeast to west aspects on backslopes of plateaus

Typical vegetation: Needlegrass, mountain big sagebrush, bluebunch wheatgrass, basin wildrye

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Hart Camp and similar soils

Composition: 0 to 6 percent

Slope: 4 to 30 percent

Landform: Plateaus

Typical vegetation: Needlegrass, other perennial forbs, bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Badgercamp and similar soils

Composition: 0 to 1 percent

Slope: 15 to 30 percent

Landform: Shoulders of plateaus

Typical vegetation: Needlegrass, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curlleaf mountainmahogany, Idaho fescue

Ecological site: R023XY026NV—Mahogany Savanna

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

475—Ninemile-Hutchley-Crocan association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,790 to 6,570

Precipitation: 12 to 16 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 55 to 85 days

Composition

Ninemile very cobbly loam, 4 to 15 percent slopes—40 percent

Hutchley very cobbly sandy loam, 8 to 30 percent slopes—30 percent

Crocan extremely stony loam, 2 to 15 percent slopes—15 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—6 percent

Redhome cobbly loam, 4 to 15 percent slopes—4 percent

Ashtre very gravelly ashy loam, 8 to 15 percent slopes—3 percent

Rock outcrop—2 percent

Component Description**Ninemile and similar soils**

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 19 inches; gravelly clay

Layer 3—19 to 29 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description**Hutchley and similar soils**

Landform: Summits of plateaus

Slope: 8 to 30 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, basin wildrye, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very cobbly sandy loam

Layer 2—6 to 14 inches; very gravelly clay loam

Layer 3—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Component Description**Crocac and similar soils**

Landform: Plateau rims

Slope: 2 to 15 percent

Parent material: Residuum derived from volcanic rocks

Typical vegetation: Forest canopy—western juniper
Forest understory—western needlegrass, Thurber's needlegrass, Idaho fescue, Canby bluegrass, Cusick's bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, western juniper, other shrubs

Site index: Western juniper—12 at an age base of 50 years

Typical profile:

Surface rock fragments: About 18 percent stones

Layer 1—0 to 3 inches; extremely stony loam

Layer 2—3 to 5 inches; clay loam

Layer 3—5 to 14 inches; clay

Layer 4—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 14 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: F023XY095NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cowbell and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 30 percent, east to west aspects
 Landform: East to west aspects on backslopes of plateaus
 Typical vegetation: Needlegrass, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curlleaf mountainmahogany
 Ecological site: R023XY026NV—Mahogany Savanna

Redhome and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Shoulders of plateaus
 Typical vegetation: Needlegrass, Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Ashtre and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 15 percent
 Landform: Backslopes of ash flows
 Typical vegetation: Needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, other shrubs
 Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Rock outcrop

Composition: 0 to 2 percent
 Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section

"Engineering" and "Soil Properties" sections

476—Ninemile-Karlo-Crocan association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,230 to 6,940
 Precipitation: 9 to 15 inches
 Air temperature: 42 to 46 degrees Fahrenheit
 Frost-free period: 60 to 100 days

Composition

Ninemile very cobbly loam, 4 to 15 percent slopes—50 percent
 Karlo cobbly clay, 2 to 8 percent slopes—20 percent
 Crocan extremely stony loam, 2 to 15 percent slopes—15 percent
 Madeline very stony loam, 4 to 15 percent slopes—6 percent
 Softscrabble very stony loam, 8 to 30 percent slopes—3 percent
 Tinpan very cobbly loam, 4 to 8 percent slopes—3 percent
 Hart Camp stony loam, moist, 4 to 15 percent slopes—2 percent
 Rock outcrop—1 percent

Component Description

Ninemile and similar soils

Landform: Plateaus
 Slope: 4 to 15 percent
 Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock
 Typical vegetation: Low sagebrush, other shrubs, other perennial forbs, Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1—0 to 7 inches; very cobbly loam
 Layer 2—7 to 19 inches; gravelly clay
 Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description

Karlo and similar soils

Landform: Plateaus
 Slope: 2 to 8 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Bottlebrush squirreltail, Washoe rubber rabbitbrush, low sagebrush, other shrubs, other perennial forbs, Sandberg bluegrass

Typical profile:

Layer 1—0 to 2 inches; cobbly clay
 Layer 2—2 to 40 inches; clay
 Layer 3—40 to 50 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 24 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY001NV—Churning clay

Component Description

Crocán and similar soils

Landform: Plateau rims
 Slope: 2 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Forest canopy—western juniper
 Forest understory—Idaho fescue, Canby bluegrass, western needlegrass, Thurber's needlegrass, other shrubs, western juniper, low sagebrush, other

perennial forbs, bluebunch wheatgrass, other perennial grasses, Cusick's bluegrass
 Site index: Western juniper—12 at an age base of 50 years

Typical profile:

Surface rock fragments: About 18 percent stones
 Layer 1—0 to 3 inches; extremely stony loam
 Layer 2—3 to 5 inches; clay loam
 Layer 3—5 to 14 inches; clay
 Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 14 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: F023XY095NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Madeline and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 15 percent
 Landform: Plateaus
 Typical vegetation: Other perennial forbs, antelope bitterbrush, needlegrass, mountain big sagebrush, bluebunch wheatgrass
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, needlegrass, basin wildrye, mountain big sagebrush
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Tinpan and similar soils

Composition: 0 to 3 percent

Slope: 4 to 8 percent

Landform: Plateaus

Typical vegetation: Other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, Idaho fescue, Thurber's needlegrass, other shrubs, bluegrass

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Hart Camp moist and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Plateaus

Typical vegetation: Needlegrass, Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Rock outcrop

Composition: 0 to 1 percent

Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

477—Ninemile-Madeline-Crocan association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,240 to 6,250

Precipitation: 12 to 15 inches

Air temperature: 42 to 45 degrees Fahrenheit

Frost-free period: 60 to 90 days

Composition

Ninemile very cobbly loam, 4 to 15 percent slopes—50 percent

Madeline very cobbly loam, 4 to 15 percent slopes—25 percent

Crocan extremely stony loam, 2 to 15 percent slopes—15 percent

Cowbell extremely cobbly ashy mucky sandy loam, 15 to 30 percent slopes—4 percent

Harskel extremely cobbly ashy loam, 8 to 30 percent slopes—3 percent

Karlo very cobbly clay, 2 to 8 percent slopes—3 percent

Component Description**Ninemile and similar soils**

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, low sagebrush, bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue, Thurber's needlegrass, other perennial forbs

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 19 inches; gravelly clay

Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description**Madeline and similar soils**

Landform: Backslopes of plateaus

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Other perennial forbs, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass, needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 29 percent cobbles, 13 percent gravel

Layer 1—0 to 2 inches; very cobbly loam
 Layer 2—2 to 6 inches; clay loam
 Layer 3—6 to 19 inches; gravelly clay
 Layer 4—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description

Crocán and similar soils

Landform: Plateau rims
 Slope: 2 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Forest canopy—western juniper
 Forest understory—other perennial grasses, other perennial forbs, western juniper, Canby bluegrass, Idaho fescue, Thurber's needlegrass, western needlegrass, bluebunch wheatgrass, other shrubs, Cusick's bluegrass, low sagebrush
 Site index: Western juniper—12 at an age base of 50 years

Typical profile:

Surface rock fragments: About 18 percent stones
 Layer 1—0 to 3 inches; extremely stony loam
 Layer 2—3 to 5 inches; clay loam
 Layer 3—5 to 14 inches; clay
 Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 14 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: F023XY095NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cowbell and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent, east to west aspects
 Landform: East to west aspects on backslopes of mountains
 Typical vegetation: Curlleaf mountainmahogany, mountain big sagebrush, Cusick's bluegrass, bluebunch wheatgrass, needlegrass, Idaho fescue
 Ecological site: R023XY026NV—Mahogany Savanna

Harskel and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 30 percent
 Landform: Plateaus
 Typical vegetation: Antelope bitterbrush, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, needlegrass
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Karlo and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 8 percent
 Landform: Plateaus
 Typical vegetation: Other shrubs, low sagebrush, Washoe rubber rabbitbrush, other perennial forbs, Sandberg bluegrass, bottlebrush squirreltail
 Ecological site: R023XY001NV—Churning clay

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

478—Ninemile-Madeline-Softscrabble association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,280 to 6,490

Precipitation: 12 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Ninemile extremely cobbly loam, 4 to 15 percent slopes—45 percent

Madeline cobbly loam, 4 to 15 percent slopes—25 percent

Softscrabble very cobbly loam, 15 to 50 percent slopes—15 percent

Redhome cobbly loam, 4 to 15 percent slopes—6 percent

Badgercamp bouldery loam, 4 to 15 percent slopes—4 percent

Hart Camp stony loam, moist, 4 to 15 percent slopes—3 percent

Crocán extremely stony loam, 2 to 15 percent slopes—1 percent

Rock outcrop—1 percent

Component Description

Ninemile and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, low sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 2 inches; extremely cobbly loam

Layer 2—2 to 14 inches; gravelly clay

Layer 3—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description

Madeline and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Needlegrass, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 3 percent stones

Layer 1—0 to 2 inches; cobbly loam

Layer 2—2 to 6 inches; clay loam

Layer 3—6 to 19 inches; gravelly clay

Layer 4—19 to 29 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description

Softscrabble and similar soils

Landform: Backslopes of plateaus

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Basin wildrye, bluebunch wheatgrass, other perennial forbs, needlegrass, antelope bitterbrush, mountain big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 20 inches; very cobbly loam
 Layer 2—20 to 32 inches; very cobbly clay loam
 Layer 3—32 to 61 inches; gravelly clay loam
 Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Redhome and similar soils

Composition: 0 to 6 percent
 Slope: 4 to 15 percent
 Landform: Shoulders of plateaus
 Typical vegetation: Basin wildrye, mountain big sagebrush, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, needlegrass
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Badgercamp and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Shoulders of plateaus
 Typical vegetation: Needlegrass, curlleaf mountainmahogany, Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush
 Ecological site: R023XY026NV—Mahogany Savanna

Hart Camp moist and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Plateaus
 Typical vegetation: Basin wildrye, Idaho fescue, needlegrass, other perennial forbs, bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Crocán and similar soils

Composition: 0 to 1 percent
 Slope: 2 to 15 percent
 Landform: Plateau rims
 Typical vegetation: Forest canopy—western juniper
 Forest understory—Idaho fescue, bluebunch wheatgrass, other perennial forbs, other shrubs, Thurber's needlegrass, western needlegrass, other trees, Canby bluegrass, low sagebrush, other perennial grasses
 Ecological site: F023XY095NV

Rock outcrop

Composition: 0 to 1 percent
 Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

479—Ninemile-Madeline-Tinpan association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,720 to 6,860
 Precipitation: 12 to 15 inches
 Air temperature: 42 to 45 degrees Fahrenheit
 Frost-free period: 60 to 90 days

Composition

Ninemile very cobbly loam, 2 to 15 percent slopes—35 percent
 Madeline very cobbly loam, 4 to 15 percent slopes—30 percent
 Tinpan very cobbly loam, 0 to 8 percent slopes—20 percent

Karlo very cobbly clay, 0 to 4 percent slopes—9 percent
 Crocan extremely stony loam, 2 to 15 percent slopes—3 percent
 Newlands gravelly loam, 8 to 30 percent slopes—3 percent

Component Description

Ninemile and similar soils

Landform: Summits of plateaus
 Slope: 2 to 15 percent
 Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock
 Typical vegetation: Bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs, Idaho fescue, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 28 percent cobbles, 10 percent gravel
 Layer 1—0 to 7 inches; very cobbly loam
 Layer 2—7 to 19 inches; gravelly clay
 Layer 3—19 to 29 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description

Madeline and similar soils

Landform: Backslopes of plateaus
 Slope: 4 to 15 percent
 Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock
 Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, other perennial forbs, antelope bitterbrush

Typical profile:

Surface rock fragments: About 2 percent stones, 29 percent cobbles, 13 percent gravel
 Layer 1—0 to 2 inches; very cobbly loam
 Layer 2—2 to 6 inches; clay loam
 Layer 3—6 to 19 inches; gravelly clay
 Layer 4—19 to 29 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Component Description

Tinpan and similar soils

Landform: Plateaus
 Slope: 0 to 8 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Other shrubs, low sagebrush, bluebunch wheatgrass, Thurber's needlegrass, other perennial grasses, bluegrass, other perennial forbs, Idaho fescue

Typical profile:

Surface rock fragments: About 6 percent stones, 29 percent cobbles, 13 percent gravel
 Layer 1—0 to 2 inches; very cobbly loam
 Layer 2—2 to 5 inches; silty clay loam
 Layer 3—5 to 28 inches; clay
 Layer 4—28 to 36 inches; clay
 Layer 5—36 to 46 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)
Available water capacity: About 5 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Karlo and similar soils

Composition: 0 to 9 percent
Slope: 0 to 4 percent
Landform: Plateaus
Typical vegetation: Other shrubs, Washoe rubber rabbitbrush, low sagebrush, other perennial forbs, bottlebrush squirreltail, Sandberg bluegrass
Ecological site: R023XY001NV—Churning clay

Crocán and similar soils

Composition: 0 to 3 percent
Slope: 2 to 15 percent
Landform: Shoulders of plateaus
Typical vegetation: Forest canopy—western juniper
Forest understory—other trees, bluebunch wheatgrass, Idaho fescue, other shrubs, other perennial forbs, other perennial grasses, Thurber's needlegrass, western needlegrass, Canby bluegrass, low sagebrush
Ecological site: F023XY095NV

Newlands and similar soils

Composition: 0 to 3 percent
Slope: 8 to 30 percent
Landform: Backslopes of plateaus
Typical vegetation: Mountain brome, other shrubs, Idaho fescue, mountain big sagebrush, melic, needlegrass, other perennial forbs
Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

480—Ninemile-Softscrabble-Crocán association

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 5,630 to 6,540
Precipitation: 13 to 20 inches
Air temperature: 42 to 45 degrees Fahrenheit
Frost-free period: 50 to 85 days

Composition

Ninemile very cobbly loam, 4 to 15 percent slopes—50 percent
Softscrabble very cobbly loam, 8 to 30 percent slopes—20 percent
Crocán extremely stony loam, 2 to 15 percent slopes—15 percent
Madeline cobbly loam, 4 to 8 percent slopes—6 percent
Cowbell extremely cobbly ashy mucky sandy loam, 8 to 30 percent slopes—5 percent
Harskel extremely cobbly ashy loam, 8 to 15 percent slopes—2 percent
Rock outcrop—2 percent

Component Description

Ninemile and similar soils

Landform: Plateaus
Slope: 4 to 15 percent
Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock
Typical vegetation: Bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs, Idaho fescue, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones
Layer 1—0 to 7 inches; very cobbly loam
Layer 2—7 to 19 inches; gravelly clay
Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)
Available water capacity: About 2 inches
Present flooding: None

Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description

Softscrabble and similar soils

Landform: Backslopes of plateaus
Slope: 8 to 30 percent
Parent material: Residuum and colluvium derived from volcanic rocks
Typical vegetation: Other perennial forbs, antelope bitterbrush, mountain big sagebrush, basin wildrye, bluebunch wheatgrass, needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
Layer 1—0 to 20 inches; very cobbly loam
Layer 2—20 to 32 inches; very cobbly clay loam
Layer 3—32 to 61 inches; gravelly clay loam
Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 8 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Component Description

Crocán and similar soils

Landform: Plateau rims
Slope: 2 to 15 percent
Parent material: Residuum derived from volcanic rocks
Typical vegetation: Forest canopy—western juniper
Forest understory—other perennial grasses, low sagebrush, western juniper, other shrubs, Canby bluegrass, Idaho fescue, Thurber's needlegrass,

bluebunch wheatgrass, other perennial forbs, western needlegrass, Cusick's bluegrass
Site index: Western juniper—12 at an age base of 50 years

Typical profile:

Surface rock fragments: About 18 percent stones
Layer 1—0 to 3 inches; extremely stony loam
Layer 2—3 to 5 inches; clay loam
Layer 3—5 to 14 inches; clay
Layer 4—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 10 to 14 inches
Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: F023XY095NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Madeline and similar soils

Composition: 0 to 6 percent
Slope: 4 to 8 percent
Landform: Plateaus
Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, other perennial forbs, antelope bitterbrush, needlegrass
Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Cowbell and similar soils

Composition: 0 to 5 percent
Slope: 8 to 30 percent, east to west aspects
Landform: East to west aspects on backslopes of plateaus
Typical vegetation: Curlleaf mountainmahogany, mountain big sagebrush, Cusick's bluegrass, bluebunch wheatgrass, Idaho fescue, needlegrass

Ecological site: R023XY026NV—Mahogany Savanna

Harskel and similar soils

Composition: 0 to 2 percent

Slope: 8 to 15 percent

Landform: Plateaus

Typical vegetation: Other perennial forbs, antelope bitterbrush, mountain big sagebrush, needlegrass, bluebunch wheatgrass

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

481—Ninemile-Westbutte-Softscrabble association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,990 to 6,520

Precipitation: 12 to 20 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 40 to 90 days

Composition

Ninemile very cobbly loam, 4 to 15 percent slopes—40 percent

Westbutte stony loam, 4 to 15 percent slopes—25 percent

Softscrabble cobbly loam, 8 to 30 percent slopes—20 percent

Hart Camp stony loam, 8 to 15 percent slopes—8 percent

Ashtre very gravelly ashy loam, 4 to 15 percent slopes—6 percent

Zorromount gravelly ashy mucky fine sandy loam, 4 to 30 percent slopes—1 percent

Component Description

Ninemile and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, Idaho fescue, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs, bluegrass

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 7 inches; very cobbly loam

Layer 2—7 to 19 inches; gravelly clay

Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description

Westbutte and similar soils

Landform: Backslopes of plateaus

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rocks

Typical vegetation: Other perennial forbs, bluebunch wheatgrass, basin wildrye, Idaho fescue, needlegrass, mountain big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 3 inches; stony loam

Layer 2—3 to 22 inches; very stony loam

Layer 3—22 to 28 inches; very cobbly clay loam

Layer 4—28 to 38 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Component Description

Softscrabble and similar soils

Landform: Plateaus

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Antelope bitterbrush, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, needlegrass, basin wildrye

Typical profile:

Surface rock fragments: About 3 percent fine gravel, 2 percent stones, 6 percent cobbles, 11 percent gravel

Layer 1—0 to 20 inches; cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hart Camp and similar soils

Composition: 0 to 8 percent

Slope: 8 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Needlegrass, antelope bitterbrush, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Ashtre and similar soils

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Backslopes of ash flows

Typical vegetation: Idaho fescue, bluegrass, needlegrass, other shrubs, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Zorromount and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent, west to east aspects

Landform: West to east aspects on backslopes of plateaus

Typical vegetation: Curleaf mountainmahogany, mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, Cusick's bluegrass, needlegrass

Ecological site: R023XY026NV—Mahogany Savanna

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

482—Nitpac-Tunnison-Bidrim association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,940 to 6,300

Precipitation: 10 to 13 inches

Air temperature: 44 to 49 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Nitpac very cobbly loam, 2 to 8 percent slopes—40 percent

Tunnison very cobbly clay, 0 to 4 percent slopes—30 percent
 Bidrim extremely stony loam, 2 to 8 percent slopes—15 percent
 Redhome cobbly loam, 4 to 15 percent slopes—7 percent
 Softscrabble very stony loam, 15 to 30 percent slopes—6 percent
 Fiddler very stony loam, 15 to 30 percent slopes—2 percent

Component Description

Nitpac and similar soils

Landform: Toeslopes of plateaus
 Slope: 2 to 8 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Low sagebrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Webber needlegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1—0 to 8 inches; very cobbly loam
 Layer 2—8 to 21 inches; clay
 Layer 3—21 to 26 inches; gravelly clay loam
 Layer 4—26 to 34 inches; cemented material
 Layer 5—34 to 44 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 20 to 40 inches
 Bedrock (paralithic): 24 to 40 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY060NV—Cobbly claypan 8-12 P.Z.

Component Description

Tunnison and similar soils

Landform: Depressions
 Slope: 0 to 4 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, low sagebrush, Washoe rubber rabbitbrush, other perennial forbs, Sandberg bluegrass, bottlebrush squirreltail

Typical profile:

Layer 1—0 to 2 inches; very cobbly clay
 Layer 2—2 to 27 inches; clay
 Layer 3—27 to 30 inches; bedrock
 Layer 4—30 to 40 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches
 Bedrock (lithic): 30 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY001NV—Churning clay

Component Description

Bidrim and similar soils

Landform: Rims
 Slope: 2 to 8 percent
 Parent material: Residuum weathered from basalt
 Typical vegetation: Forest canopy—western juniper
 Forest understory—bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs, other perennial grasses, bluegrass, Thurber's needlegrass
 Site index: Western juniper—12 at an age base of 50 years

Typical profile:

Layer 1—0 to 3 inches; extremely stony loam
 Layer 2—3 to 8 inches; clay loam
 Layer 3—8 to 13 inches; clay
 Layer 4—13 to 23 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 14 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: F023XY091NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Redhome and similar soils

Composition: 0 to 7 percent

Slope: 4 to 15 percent

Landform: Shoulders of plateaus

Typical vegetation: Mountain big sagebrush, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, basin wildrye, needlegrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 6 percent

Slope: 15 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Fiddler and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent

Landform: Backslopes of plateaus

Typical vegetation: Forest canopy—western juniper
Forest understory—Thurber's needlegrass, bottlebrush squirreltail, Idaho fescue, Nevada bluegrass, antelope bitterbrush, Douglas rabbitbrush, arrowleaf balsamroot, bluebunch wheatgrass, Sandberg bluegrass

Ecological site: F023XY024NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

483—Nitpac-Tunnison-Devada association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,800 to 6,310

Precipitation: 10 to 13 inches

Air temperature: 44 to 49 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Nitpac very cobbly loam, 4 to 15 percent slopes—40 percent

Tunnison very cobbly clay, 2 to 8 percent slopes—30 percent

Devada very cobbly loam, 4 to 15 percent slopes—20 percent

Tuledad extremely cobbly loam, 4 to 8 percent slopes—6 percent

Bidrim extremely stony loam, 2 to 8 percent slopes—3 percent

Wylo very stony loam, 4 to 15 percent slopes—1 percent

Component Description

Nitpac and similar soils

Landform: Toeslopes of plateaus

Slope: 4 to 15 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Other perennial forbs, Webber needlegrass, Thurber's needlegrass, bluebunch wheatgrass, bluegrass, low sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones

Layer 1—0 to 8 inches; very cobbly loam

Layer 2—8 to 21 inches; clay

Layer 3—21 to 26 inches; gravelly clay loam

Layer 4—26 to 34 inches; cemented material

Layer 5—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Duripan: 20 to 40 inches

Bedrock (paralithic): 24 to 40 inches

Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)
Available water capacity: About 4 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY060NV—Cobbly claypan 8-12
P.Z.

Component Description

Tunnison and similar soils

Landform: Depressions
Slope: 2 to 8 percent
Parent material: Colluvium and/or residuum weathered
from volcanic rock
Typical vegetation: Sandberg bluegrass, bottlebrush
squirreltail, other perennial forbs, other shrubs, low
sagebrush, Washoe rubber rabbitbrush

Typical profile:

Layer 1—0 to 2 inches; very cobbly clay
Layer 2—2 to 27 inches; clay
Layer 3—27 to 30 inches; bedrock
Layer 4—30 to 40 inches; bedrock

See “Chemical Soil Properties” table and the “Physical
Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 20 to 35
inches Bedrock (lithic): 30 to 40 inches
Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)
Available water capacity: About 3 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY001NV—Churning clay

Component Description

Devada and similar soils

Landform: Summits of plateaus
Slope: 4 to 15 percent
Parent material: Residuum derived from volcanic rocks
Typical vegetation: Thurber's needlegrass, bluegrass,
other perennial forbs, bluebunch wheatgrass, low
sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones
Layer 1—0 to 6 inches; very cobbly loam
Layer 2—6 to 17 inches; clay
Layer 3—17 to 27 inches; bedrock

See “Chemical Soil Properties” table and the “Physical
Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 12 to 20
inches
Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Typical soil descriptions including ranges in
characteristics are in the “Classification of the Soils”
section.

Contrasting Inclusions

Tuledad and similar soils

Composition: 0 to 6 percent
Slope: 4 to 8 percent
Landform: Shoulders of plateaus
Typical vegetation: Low sagebrush, other perennial
forbs, Thurber's needlegrass, Sandberg bluegrass,
other perennial grasses
Ecological site: R023XY044NV—Very cobbly claypan

Bidrim and similar soils

Composition: 0 to 3 percent
Slope: 2 to 8 percent
Landform: Rims
Typical vegetation: Forest canopy—western juniper
Forest understory—bluebunch wheatgrass, Thurber's
needlegrass, bluegrass, low sagebrush
Ecological site: F023XY091NV

Wylo and similar soils

Composition: 0 to 1 percent
Slope: 4 to 15 percent, southeast to southwest aspects
Landform: Southeast to southwest aspects on shoulders
of plateaus

Typical vegetation: Other perennial forbs, Lahontan sagebrush, bluegrass, bluebunch wheatgrass, Thurber's needlegrass
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

484—Nomazu-Macnot association

Map Unit Setting

MLRA: 23
 Landscape: Bolson
 Elevation: 4,680 to 5,110
 Precipitation: 5 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Nomazu ashy very fine sandy loam, 0 to 4 percent slopes—60 percent
 Macnot very gravelly ashy sandy loam, 2 to 4 percent slopes—25 percent
 Nomazu ashy very fine sandy loam, 2 to 4 percent slopes—7 percent
 Macnot gravelly ashy sandy loam, 0 to 2 percent slopes—6 percent
 Nomazu ashy very fine sandy loam, 2 to 4 percent slopes—2 percent

Component Description

Nomazu and similar soils

Landform: Basin-floor remnants
 Slope: 0 to 4 percent
 Parent material: Volcanic ash and alluvium derived from mixed-igneous & sedimentary rocks
 Typical vegetation: Other shrubs, bottlebrush squirreltail, bud sagebrush, shadscale, spiny hopsage, Indian ricegrass

Typical profile:

Layer 1—0 to 7 inches; ashy very fine sandy loam
 Layer 2—7 to 10 inches; ashy very fine sandy loam
 Layer 3—10 to 13 inches; ashy fine sandy loam
 Layer 4—13 to 29 inches; ashy very fine sandy loam
 Layer 5—29 to 38 inches; ashy fine sandy loam

Layer 6—38 to 48 inches; very paragravelly ashy fine sandy loam
 Layer 7—48 to 60 inches; very paragravelly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
 Ecological site: R024XY065NV—Gravelly loam 5-8 P.Z.

Component Description

Macnot and similar soils

Landform: Beach terraces
 Slope: 2 to 4 percent
 Parent material: Volcanic ash and alluvium derived from volcanic rocks
 Typical vegetation: Indian ricegrass, Sandberg bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage, bottlebrush squirreltail, Thurber's needlegrass

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
 Layer 2—1 to 6 inches; ashy gravelly sandy loam
 Layer 3—6 to 16 inches; very gravelly ashy sandy loam
 Layer 4—16 to 24 inches; very gravelly ashy loamy sand
 Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nomazu moderately saline and similar soils

Composition: 0 to 7 percent

Slope: 2 to 4 percent

Landform: Basin-floor remnants

Typical vegetation: Other shrubs, black greasewood, shadscale, bud sagebrush, other perennial forbs, other perennial grasses, bottlebrush squirreltail

Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Macnot and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Typical vegetation: Other shrubs, spiny hopsage, other perennial forbs, big sagebrush, basin wildrye, thickspike wheatgrass

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Nomazu non-saline surface and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Basin-floor remnants

Typical vegetation: Bud sagebrush, winterfat, bottlebrush squirreltail, Indian ricegrass

Ecological site: R024XY004NV—Silty 4-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

485—Nomazu-Ragtown association

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 4,700 to 4,850

Precipitation: 4 to 7 inches

Air temperature: 45 to 55 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Nomazu ashy very fine sandy loam, 0 to 4 percent slopes—65 percent

Ragtown fine sandy loam, 0 to 2 percent slopes—20 percent

Macnot gravelly ashy sandy loam, 0 to 2 percent slopes—6 percent

Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—3 percent

Pegler ashy fine sandy loam, 0 to 2 percent slopes—3 percent

Macnot very gravelly ashy sandy loam, 2 to 4 percent slopes—3 percent

Component Description

Nomazu moderately saline and similar soils

Landform: Basin-floor remnants

Slope: 0 to 4 percent

Parent material: Volcanic ash and alluvium derived from mixed-igneous & sedimentary rocks

Typical vegetation: Bud sagebrush, other perennial forbs, other perennial grasses, bottlebrush squirreltail, shadscale, black greasewood, other shrubs

Typical profile:

Layer 1—0 to 7 inches; ashy very fine sandy loam

Layer 2—7 to 10 inches; ashy very fine sandy loam

Layer 3—10 to 13 inches; ashy fine sandy loam

Layer 4—13 to 29 inches; ashy very fine sandy loam

Layer 5—29 to 38 inches; ashy fine sandy loam

Layer 6—38 to 48 inches; very paragravelly ashy fine sandy loam

Layer 7—48 to 60 inches; very paragravelly ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Component Description

Ragtown and similar soils

Landform: Basin-floor remnants

Slope: 0 to 2 percent

Parent material: Lacustrine deposits derived from volcanic rock

Typical vegetation: Black greasewood, bottlebrush squirreltail, other shrubs, other perennial grasses, shadscale, bud sagebrush, other perennial forbs

Typical profile:

Layer 1—0 to 10 inches; fine sandy loam

Layer 2—10 to 23 inches; stratified sandy clay loam to silty clay loam

Layer 3—23 to 60 inches; stratified silty clay loam to clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 10 inches

Present flooding: None

Present ponding: None

Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 6s

Nonirrigated land capability: 7s

Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Macnot and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Alluvial fans

Typical vegetation: Other shrubs, big sagebrush, basin wildrye, thickspike wheatgrass, spiny hopsage, other perennial forbs

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Crutcher and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Nevada bluegrass, black greasewood, inland saltgrass, basin wildrye

Ecological site: R023XY010NV—Saline bottom

Pegler and similar soils

Composition: 0 to 3 percent

Slope: 0 to 2 percent

Landform: Rock pediments

Typical vegetation: Wyoming big sagebrush, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, spiny hopsage, other shrubs

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Macnot and similar soils

Composition: 0 to 3 percent

Slope: 2 to 4 percent

Landform: Beach terraces

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other shrubs, spiny hopsage, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

486—Nopeg-Pegler association

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,680 to 4,840

Precipitation: 6 to 10 inches

Air temperature: 44 to 47 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Nopeg ashy sandy loam, 0 to 2 percent slopes—50 percent

Pegler ashy fine sandy loam, 0 to 2 percent slopes—35 percent

Mcwatt very gravelly fine sandy loam, 2 to 4 percent slopes—6 percent

Davey fine sandy loam, 2 to 4 percent slopes—5 percent

Valmy fine sandy loam, 0 to 2 percent slopes—4 percent

Component Description

Nopeg and similar soils

Landform: Rock pediments

Slope: 0 to 2 percent

Parent material: Volcanic ash and alluvium derived from igneous rock over residuum weathered from tuff

Typical vegetation: Other shrubs, shadscale, bottlebrush squirreltail, Indian ricegrass, bud sagebrush

Typical profile:

Layer 1—0 to 5 inches; ashy sandy loam

Layer 2—5 to 11 inches; ashy sandy loam

Layer 3—11 to 19 inches; ashy sandy loam

Layer 4—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Sodicity: Sodic within 40 inches

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Component Description

Pegler and similar soils

Landform: Rock pediments

Slope: 0 to 2 percent

Parent material: Volcanic ash and alluvium derived from igneous rock over residuum weathered from tuff

Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs, Thurber's needlegrass, Indian ricegrass, spiny hopsage

Typical profile:

Layer 1—0 to 2 inches; ashy fine sandy loam

Layer 2—2 to 10 inches; paragravelly ashy sandy clay loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 10 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mcwatt and similar soils

Composition: 0 to 6 percent

Slope: 2 to 4 percent

Landform: Beach terraces

Typical vegetation: Spiny hopsage, other shrubs, Thurber's needlegrass, bottlebrush squirreltail, Wyoming big sagebrush, Indian ricegrass, Sandberg bluegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Davey and similar soils

Composition: 0 to 5 percent

Slope: 2 to 4 percent

Landform: Fan skirts

Typical vegetation: Spiny hopsage, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Valmy and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Shoulders of lake terraces

Typical vegetation: Bottlebrush squirreltail, other shrubs, black greasewood, spiny hopsage, big sagebrush,

other perennial forbs, other perennial grasses, basin wildrye
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

487—Nowack very gravelly ashy loam, 30 to 50 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 5,130 to 8,340
 Precipitation: 20 to 40 inches
 Air temperature: 37 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Nowack very gravelly ashy loam, cool, 30 to 50 percent slopes—85 percent
 Lotawaca very gravelly ashy sandy loam, cool, 30 to 50 percent slopes—3 percent
 Lyonman gravelly ashy sandy loam, 30 to 50 percent slopes—3 percent
 Paynepeak gravelly ashy loam, cool, 15 to 50 percent slopes—3 percent
 Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—2 percent
 Dawgbuffer very gravelly ashy sandy loam, 8 to 30 percent slopes—1 percent
 Gurlidawg very gravelly ashy sandy loam, cool, 30 to 50 percent slopes—1 percent
 Histic Cryaquolls muck, cool, 4 to 15 percent slopes—1 percent
 Rock outcrop, 30 to 75 percent slopes—1 percent

Component Description

Nowack and similar soils
 Landform: Mountain slopes
 Slope: 30 to 50 percent
 Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Forest canopy—white fir Forest understory—Ross' sedge, other perennial grasses, currant, other perennial forbs, other shrubs, roundleaf snowberry, white fir, mountain brome
 Site index: White fir—40 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent gravel, 5 percent cobbles, 2 percent stones
 Layer 1—0 to 1 inches; gravelly moderately decomposed plant material
 Layer 1—1 to 10 inches; very gravelly ashy loam
 Layer 2—10 to 42 inches; very gravelly ashy loam
 Layer 3—42 to 52 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: F021XE231CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lotawaca and similar soils

Composition: 0 to 3 percent
 Slope: 30 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—white fir Forest understory—other shrubs, western white pine, sticky currant, white fir, other perennial forbs, Wheeler bluegrass, Ross' sedge, western needlegrass, other annual forbs
 Ecological site: F021XE239CA

Lyonman and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy—ponderosa pine
 Forest understory—needlegrass, other perennial
 forbs, Ross' sedge, other perennial grasses, Wheeler
 bluegrass, roundleaf snowberry, ponderosa pine,
 other shrubs
 Ecological site: F021XE230CA

Paynepeak and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Mountain brome, bluegrass, other
 perennial grasses, other perennial forbs, mountain
 big sagebrush, other shrubs, roundleaf snowberry,
 needlegrass
 Ecological site: R021XE222CA—Loamy slope

Pyropatti and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—other perennial forbs, roundleaf
 snowberry, quaking aspen, mountain brome, slender
 wheatgrass, other perennial grasses, mountain big
 sagebrush
 Ecological site: F021XE233CA

Dawgbuffer and similar soils

Composition: 0 to 1 percent
 Slope: 8 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Mountain brome, bluegrass,
 bluebunch wheatgrass, other perennial forbs,
 mountain big sagebrush, needlegrass, roundleaf
 snowberry, other trees, curl-leaf mountain mahogany
 Ecological site: R021XE210CA—Mahogany Savanna

Gurlidawg and similar soils

Composition: 0 to 1 percent
 Slope: 30 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—lodgepole pine
 Forest understory—lodgepole pine, other shrubs,
 western needlegrass, Ross' sedge, bluegrass, other
 perennial forbs, pinemat manzanita, western white
 pine
 Ecological site: F021XE232CA

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy Histic Cryaquolls

Slope: 4 to 15 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, other
 perennial grasses, sedge, rush, tufted hairgrass
 Ecological site: R021XE226CA—Seep

Rock outcrop

Composition: 0 to 1 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

488—Nowack very gravelly ashy loam, 4 to 30 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 6,210 to 7,770
 Precipitation: 20 to 40 inches
 Air temperature: 37 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Nowack very gravelly ashy loam, cool, 4 to 30 percent
 slopes—85 percent
 Paynepeak gravelly ashy loam, cool, 4 to 30 percent
 slopes—4 percent
 Lotawaca very gravelly ashy sandy loam, cool, 4 to 30
 percent slopes—2 percent
 Lyonman gravelly ashy sandy loam, 4 to 30 percent
 slopes—2 percent
 Pyropatti gravelly ashy loam, cool, 4 to 30 percent
 slopes—2 percent
 Dawgbuffer very gravelly ashy sandy loam, 4 to 30
 percent slopes—1 percent
 Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30
 percent slopes—1 percent
 Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30
 percent slopes—1 percent
 Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1
 percent
 Rock outcrop, 30 to 75 percent slopes—1 percent

Component Description

Nowack and similar soils

Landform: Mountain slopes

Slope: 4 to 30 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Forest canopy—white fir Forest understory—other shrubs, roundleaf snowberry, currant, Ross' sedge, white fir, mountain brome, other perennial grasses, other perennial forbs

Site index: White fir—40 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent gravel, 5 percent cobbles, 2 percent stones

Layer 1—0 to 1 inches; very gravelly moderately decomposed plant material

Layer 1—1 to 10 inches; very gravelly ashy loam

Layer 2—10 to 42 inches; very gravelly ashy loam

Layer 3—42 to 52 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: F021XE231CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Paynepeak and similar soils

Composition: 0 to 4 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, other shrubs, mountain big sagebrush, other perennial forbs, other

perennial grasses, bluegrass, mountain brome, needlegrass

Ecological site: R021XE222CA—Loamy slope

Lotawaca and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—other perennial forbs, other annual forbs, western needlegrass, Ross' sedge, Wheeler bluegrass, sticky currant, white fir, other shrubs, western white pine

Ecological site: F021XE239CA

Lyonman and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—ponderosa pine Forest understory—other shrubs, other perennial grasses, roundleaf snowberry, ponderosa pine, other perennial forbs, needlegrass, Ross' sedge, Wheeler bluegrass

Ecological site: F021XE230CA

Pyropatti and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen Forest understory—slender wheatgrass, mountain brome, other perennial forbs, mountain big sagebrush, quaking aspen, other perennial grasses, roundleaf snowberry

Ecological site: F021XE233CA

Dawgbuffer and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, needlegrass, mountain brome, bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, other trees

Ecological site: R021XE210CA—Mahogany Savanna

Gurlidawg and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—lodgepole pine
Forest understory—pinemat manzanita, western
needlegrass, Ross' sedge, bluegrass, lodgepole pine,
western white pine, other shrubs, other perennial
forbs

Ecological site: F021XE232CA

Gurlidawg cool and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—whitebark pine
Forest understory—western needlegrass, California
needlegrass, Ross' sedge, other perennial grasses,
other perennial forbs, whitebark pine, gooseberry
currant, other shrubs

Ecological site: F021XE235CA

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Sedge, tufted hairgrass, other
perennial grasses, other perennial forbs, rush

Ecological site: R021XE226CA—Seep

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the
following sections and associated tables in this
publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

489—Nowack-Fendersflat association

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,860 to 8,450

Precipitation: 20 to 40 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

Composition

Nowack very gravelly ashy loam, cool, 15 to 50 percent
slopes—55 percent

Fendersflat gravelly ashy loam, 15 to 50 percent
slopes—30 percent

Paynepeak gravelly ashy loam, cool, 15 to 50 percent
slopes—5 percent

Pyropatti gravelly ashy loam, cool, 8 to 30 percent
slopes—3 percent

Dawgbuffer very gravelly ashy sandy loam, 15 to 50
percent slopes—2 percent

Histic Cryaquolls muck, cool, 8 to 30 percent slopes—2
percent

Lyonman gravelly ashy sandy loam, 15 to 50 percent
slopes—2 percent

Rock outcrop, 30 to 75 percent slopes—1 percent

Component Description

Nowack and similar soils

Landform: Mountain slopes

Slope: 15 to 50 percent

Parent material: Volcanic ash and/or colluvium and/or
residuum weathered from volcanic rock

Typical vegetation: Forest canopy—white fir Forest
understory—white fir, other shrubs, other perennial
forbs, roundleaf snowberry, currant, other perennial
grasses, Ross' sedge, mountain brome

Site index: White fir—40 at an age base of 50 years

Typical profile:

Surface rock fragments: About 20 percent gravel, 5
percent cobbles, 2 percent stones

Layer 1—0 to 1 inches; very gravelly moderately
decomposed plant material

Layer 1—1 to 10 inches; very gravelly ashy loam

Layer 2—10 to 42 inches; very gravelly ashy loam

Layer 3—42 to 52 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60
inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: F021XE231CA

Component Description

Fendersflat cool and similar soils

Landform: Mountain slopes

Slope: 15 to 50 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and colluvium derived from volcanic rock

Typical vegetation: Idaho fescue, Sandberg bluegrass, other perennial forbs, mountain big sagebrush, other shrubs, roundleaf snowberry, other perennial grasses, sedge

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent gravel, 3 percent stones

Layer 1—0 to 7 inches; gravelly ashy loam

Layer 2—7 to 25 inches; extremely cobbly ashy loam

Layer 3—25 to 35 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE229CA—Ashy slope

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Paynepeak and similar soils

Composition: 0 to 5 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, needlegrass, other perennial forbs, other shrubs, mountain big sagebrush, other perennial grasses, bluegrass, mountain brome

Ecological site: R021XE222CA—Loamy slope

Pyropatti and similar soils

Composition: 0 to 3 percent

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen
Forest understory—roundleaf snowberry, quaking aspen, mountain big sagebrush, other perennial forbs, other perennial grasses, slender wheatgrass, mountain brome

Ecological site: F021XE233CA

Dawgbuffer and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Needlegrass, curl-leaf mountain mahogany, other trees, roundleaf snowberry, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, bluegrass, mountain brome

Ecological site: R021XE210CA—Mahogany Savanna

Histic Cryaquolls and similar soils

Composition: 0 to 2 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Other perennial grasses, tufted hairgrass, sedge, other perennial forbs, rush

Ecological site: R021XE226CA—Seep

Lyonman and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—ponderosa pine
Forest understory—other perennial grasses, roundleaf snowberry, needlegrass, Ross' sedge, other perennial forbs, other shrubs, Wheeler bluegrass, ponderosa pine

Ecological site: F021XE230CA

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section
 "Engineering" and "Soil Properties" sections

490—Nutzan-Cavin-Ashre association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,800 to 6,840
 Precipitation: 12 to 18 inches
 Air temperature: 43 to 45 degrees Fahrenheit
 Frost-free period: 60 to 100 days

Composition

Nutzan very gravelly ashy sandy loam, 4 to 30 percent slopes—40 percent
 Cavin very gravelly ashy sandy loam, 8 to 30 percent slopes—30 percent
 Ashre very gravelly ashy loam, 8 to 30 percent slopes—15 percent
 Zorromount gravelly ashy mucky fine sandy loam, 8 to 30 percent slopes—5 percent
 Badgercamp bouldery loam, 8 to 30 percent slopes—4 percent
 Tusune gravelly ashy loam, 30 to 50 percent slopes—4 percent
 Rock outcrop—2 percent

Component Description

Nutzan and similar soils

Landform: Summits of plateaus
 Slope: 4 to 30 percent
 Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Antelope bitterbrush, other shrubs, other perennial grasses, needlegrass, mountain big sagebrush, Idaho fescue, other perennial forbs

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 10 inches; very gravelly ashy sandy loam
 Layer 2—10 to 17 inches; gravelly ashy sandy loam
 Layer 3—17 to 28 inches; very gravelly ashy sandy loam
 Layer 4—28 to 36 inches; extremely gravelly ashy coarse sandy loam
 Layer 5—36 to 46 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Component Description

Cavin and similar soils

Landform: East to west aspects on shoulders of plateaus
 Slope: 8 to 30 percent, east to west aspects
 Parent material: Volcanic ash and colluvium derived from volcanic rock
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, other perennial forbs, Cusick's bluegrass, Idaho fescue, needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 2 inches; very gravelly ashy sandy loam
 Layer 2—2 to 11 inches; very gravelly ashy sandy loam
 Layer 3—11 to 18 inches; very gravelly ashy sandy loam
 Layer 4—18 to 24 inches; very gravelly ashy sandy loam
 Layer 5—24 to 60 inches; extremely cobbly ashy very fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Component Description

Ashre and similar soils

Landform: Backslopes of ash flows
 Slope: 8 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Other perennial forbs, mountain big sagebrush, other shrubs, other perennial grasses, bluebunch wheatgrass, needlegrass, bluegrass, Idaho fescue

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Zorromount and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent, west to east aspects

Landform: West to east aspects on backslopes of plateaus

Typical vegetation: Bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, Idaho fescue, needlegrass, curlleaf mountainmahogany

Ecological site: R023XY026NV—Mahogany Savanna

Badgercamp and similar soils

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Shoulders of plateaus

Typical vegetation: Idaho fescue, needlegrass, curlleaf mountainmahogany, mountain big sagebrush,

Cusick's bluegrass, bluebunch wheatgrass

Ecological site: R023XY026NV—Mahogany Savanna

Tusune and similar soils

Composition: 0 to 4 percent

Slope: 30 to 50 percent

Landform: Footslopes of plateaus

Typical vegetation: Other shrubs, mountain big sagebrush, other perennial forbs, Cusick's bluegrass, Idaho fescue, bluebunch wheatgrass

Ecological site: R023XY054NV—Steep north slope

Rock outcrop

Composition: 0 to 2 percent

Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

491—Nutzan-Hutchley-Tusune association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,970 to 7,310

Precipitation: 12 to 16 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 55 to 85 days

Composition

Nutzan very gravelly ashy sandy loam, 8 to 30 percent slopes—50 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—20 percent

Tusune gravelly ashy loam, 15 to 50 percent slopes—15 percent

Cavin very gravelly ashy sandy loam, 15 to 30 percent slopes—6 percent

Badgercamp bouldery loam, 8 to 30 percent slopes—4 percent

Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—4 percent

Rock outcrop, 9 to 15 percent slopes—1 percent

Component Description**Nutzan and similar soils**

Landform: Shoulders of plateaus

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Antelope bitterbrush, other shrubs, mountain big sagebrush, needlegrass, Idaho fescue, other perennial forbs, other perennial grasses

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 10 inches; very gravelly ashy sandy loam

Layer 2—10 to 17 inches; gravelly ashy sandy loam

Layer 3—17 to 28 inches; very gravelly ashy sandy loam

Layer 4—28 to 36 inches; extremely gravelly ashy coarse sandy loam

Layer 5—36 to 46 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Component Description**Hutchley and similar soils**

Landform: Summits of plateaus

Slope: 4 to 15 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Mountain big sagebrush, Idaho fescue, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, needlegrass, basin wildrye

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very cobbly sandy loam

Layer 2—6 to 14 inches; very gravelly clay loam

Layer 3—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Component Description**Tusune and similar soils**

Landform: Backslopes of plateaus

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Bluebunch wheatgrass, Cusick's bluegrass, Idaho fescue, mountain big sagebrush, other shrubs, other perennial forbs

Typical profile:

Surface rock fragments: About 2 percent stones, 2 percent cobbles, 28 percent gravel

Layer 1—0 to 2 inches; gravelly ashy loam

Layer 2—2 to 10 inches; gravelly ashy loam

Layer 3—10 to 38 inches; very gravelly ashy clay loam

Layer 4—38 to 48 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY054NV—Steep north slope

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cavin and similar soils

Composition: 0 to 6 percent
Slope: 15 to 30 percent, east to west aspects
Landform: East to west aspects on shoulders of plateaus
Typical vegetation: Idaho fescue, needlegrass, Cusick's bluegrass, other perennial forbs, bluebunch wheatgrass, mountain big sagebrush
Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Badgercamp and similar soils

Composition: 0 to 4 percent
Slope: 8 to 30 percent
Landform: Shoulders of plateaus
Typical vegetation: Idaho fescue, needlegrass, curlleaf mountainmahogany, mountain big sagebrush, Cusick's bluegrass, bluebunch wheatgrass
Ecological site: R023XY026NV—Mahogany Savanna

Brownsbowl and similar soils

Composition: 0 to 4 percent
Slope: 8 to 15 percent, northeast to northwest aspects
Landform: Northeast to northwest aspects on plateaus
Typical vegetation: Mountain brome, needlegrass, Idaho fescue, mountain big sagebrush, other shrubs, other perennial forbs, melic
Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Rock outcrop

Composition: 0 to 1 percent
Slope: 9 to 15 percent
Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

492—Nutzan-Tusune-Ashtre association

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 5,990 to 7,160

Precipitation: 12 to 16 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 60 to 100 days

Composition

Nutzan very gravelly ashy sandy loam, 8 to 30 percent slopes—40 percent
Tusune gravelly ashy loam, 15 to 50 percent slopes—30 percent
Ashtre very gravelly ashy loam, 8 to 30 percent slopes—15 percent
Hutchley very cobbly sandy loam, 4 to 15 percent slopes—8 percent
Cavin very gravelly ashy sandy loam, 15 to 30 percent slopes—4 percent
Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—3 percent

Component Description

Nutzan and similar soils

Landform: Summits of plateaus
Slope: 8 to 30 percent
Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks
Typical vegetation: Antelope bitterbrush, mountain big sagebrush, other shrubs, other perennial grasses, needlegrass, other perennial forbs, Idaho fescue

Typical profile:

Surface rock fragments: About 5 percent stones
Layer 1—0 to 10 inches; very gravelly ashy sandy loam
Layer 2—10 to 17 inches; gravelly ashy sandy loam
Layer 3—17 to 28 inches; very gravelly ashy sandy loam
Layer 4—28 to 36 inches; extremely gravelly ashy coarse sandy loam
Layer 5—36 to 46 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
Available water capacity: About 5 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Component Description**Tusune and similar soils**

Landform: Footslopes of plateaus

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Idaho fescue, other shrubs, mountain big sagebrush, other perennial forbs, Cusick's bluegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 2 percent stones, 2 percent cobbles, 28 percent gravel

Layer 1—0 to 2 inches; gravelly ashy loam

Layer 2—2 to 10 inches; gravelly ashy loam

Layer 3—10 to 38 inches; very gravelly ashy clay loam

Layer 4—38 to 48 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY054NV—Steep north slope

Component Description**Ashtre and similar soils**

Landform: Backslopes of ash flows

Slope: 8 to 30 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Bluebunch wheatgrass, other perennial grasses, other shrubs, mountain big sagebrush, other perennial forbs, bluegrass, Idaho fescue, needlegrass

Typical profile:

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 11 inches; ashy loam

Layer 3—11 to 26 inches; ashy clay loam

Layer 4—26 to 60 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Hutchley and similar soils**

Composition: 0 to 8 percent

Slope: 4 to 15 percent

Landform: Summits of plateaus

Typical vegetation: Mountain big sagebrush, needlegrass, basin wildrye, Idaho fescue, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R023XY008NV—Mountain ridge

Cavin and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent, east to west aspects

Landform: East to west aspects on shoulders of plateaus

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, needlegrass, Cusick's bluegrass, other perennial forbs

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Brownsbowl and similar soils

Composition: 0 to 3 percent

Slope: 8 to 15 percent, northeast to northwest aspects

Landform: Northeast to northwest aspects on plateaus

Typical vegetation: Mountain brome, other perennial forbs, other shrubs, melic, mountain big sagebrush, Idaho fescue, needlegrass

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

493—Observation-Searles-Madeline association

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,850 to 6,250

Precipitation: 12 to 16 inches

Air temperature: 40 to 46 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Observation very stony loam, 30 to 50 percent slopes—35 percent

Searles very stony loam, 30 to 50 percent slopes—30 percent

Madeline very stony loam, 30 to 50 percent slopes—20 percent

Rubble land, 30 to 50 percent slopes—5 percent

Rock outcrop, 30 to 50 percent slopes—5 percent

Glean very stony loam, 30 to 50 percent slopes—5 percent

Component Description

Observation and similar soils

Landform: North facing backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Idaho fescue, Thurber's needlegrass, bluebunch wheatgrass, antelope bitterbrush, mountain big sagebrush, other perennial forbs

Typical profile:

Surface rock fragments: About 15 percent cobbles, 25 percent stones

Layer 1—0 to 3 inches; very stony loam

Layer 2—3 to 9 inches; loam

Layer 3—9 to 18 inches; clay loam

Layer 4—18 to 35 inches; gravelly clay

Layer 5—35 to 45 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA—Stony loam 12-16"

Component Description

Searles and similar soils

Landform: South facing backslopes of mountains

Slope: 30 to 50 percent, south aspect

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Other perennial forbs, Thurber's needlegrass, antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 15 percent cobbles, 20 percent stones

Layer 1—0 to 13 inches; very stony loam

Layer 2—13 to 29 inches; very cobbly clay loam

Layer 3—29 to 39 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE179CA—Warm stony loam 12-16"

Component Description

Madeline and similar soils

Landform: North facing backslopes of mountains

Slope: 30 to 50 percent, north aspect

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Idaho fescue, other perennial forbs, mountain big sagebrush, antelope bitterbrush, Thurber's needlegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 20 percent cobbles, 20 percent stones

Layer 1—0 to 5 inches; very stony loam

Layer 2—5 to 9 inches; gravelly clay

Layer 3—9 to 16 inches; gravelly clay

Layer 4—16 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE174CA—Stony loam 12-16"

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Rock outcrop

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Mountains

Glean and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, north aspect

Landform: North facing backslopes of mountains

Typical vegetation: Needlegrass, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue, antelope bitterbrush

Ecological site: R021XE174CA—Stony loam 12-16"

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

494—Old Camp gravelly loam, 8 to 30 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,030 to 5,760

Precipitation: 9 to 11 inches

Air temperature: 44 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Old Camp gravelly loam, 8 to 30 percent slopes—85 percent

Schamp very stony loam, 4 to 15 percent slopes—7 percent

Bombadil very gravelly loam, 4 to 15 percent slopes—4 percent

Corral stony loam, 15 to 30 percent slopes—4 percent

Component Description

Old Camp and similar soils

Landform: Plateaus

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 14 inches; extremely stony clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Schamp and similar soils

Composition: 0 to 7 percent

Slope: 4 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Bombadil and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Plateaus

Typical vegetation: Bottlebrush squirreltail, spiny hopsage, other shrubs, Wyoming big sagebrush, Sandberg bluegrass, Thurber's needlegrass, Indian ricegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Corral and similar soils

Composition: 0 to 4 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

495—Old Camp very gravelly loam, 4 to 15 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,000 to 5,470

Precipitation: 8 to 12 inches

Air temperature: 43 to 46 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Old Camp very gravelly loam, 4 to 15 percent slopes—90 percent

Reywat cobbly loam, 15 to 30 percent slopes—6 percent

Saraph gravelly ashy sandy loam, 4 to 15 percent slopes—4 percent

Component Description

Old Camp and similar soils

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other perennial forbs, Wyoming big sagebrush, other shrubs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 4 percent stones

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 14 inches; extremely stony clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Reywat and similar soils

Composition: 0 to 6 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Wyoming big sagebrush, antelope bitterbrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Saraph and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Summits of rock pediments
 Typical vegetation: Other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

496—Old Camp very stony loam, 4 to 15 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,930 to 6,150
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Old Camp very stony loam, 4 to 15 percent slopes—90 percent
 Saraph very cobbly ashy sandy loam, 15 to 30 percent slopes—8 percent
 Bombadil very stony loam, 4 to 15 percent slopes—2 percent

Component Description

Old Camp and similar soils

Landform: Summits of plateaus
 Slope: 4 to 15 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 2 inches; very stony loam
 Layer 2—2 to 14 inches; extremely stony clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Saraph and similar soils

Composition: 0 to 8 percent
 Slope: 15 to 30 percent
 Landform: Summits of rock pediments

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Bombadil and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Shoulders of plateaus
 Typical vegetation: Bottlebrush squirreltail, spiny hopsage, other shrubs, Wyoming big sagebrush, Sandberg bluegrass, Thurber's needlegrass, Indian ricegrass
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

497—Old Camp-Ceejay association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,530 to 6,540
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 54 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Old Camp very stony sandy loam, 8 to 30 percent slopes—50 percent
 Ceejay very stony loam, 4 to 30 percent slopes—35 percent
 Pickup very stony loam, 30 to 50 percent slopes—5 percent
 Wylo very stony loam, 15 to 30 percent slopes—5 percent
 Ferver very cobbly loam, 2 to 15 percent slopes—3 percent
 Bucklake very stony loam, 15 to 50 percent slopes—2 percent

Component Description

Old Camp and similar soils

Landform: Backslopes of plateaus
 Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Wyoming big sagebrush, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, other shrubs

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 2 inches; very stony sandy loam
 Layer 2—2 to 14 inches; extremely stony clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Ceejay and similar soils

Landform: Backslopes of plateaus
 Slope: 4 to 30 percent
 Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, Webber needlegrass, other perennial forbs, Lahontan sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 2 inches; very stony loam
 Layer 2—2 to 16 inches; cobbly clay loam
 Layer 3—16 to 26 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Pickup and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Plateaus
 Typical vegetation: Lahontan sagebrush, other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Wylo and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent, southeast to southwest aspects
 Landform: Southeast to southwest aspects on shoulders of plateaus
 Typical vegetation: Lahontan sagebrush, bluebunch wheatgrass, bluegrass, Thurber's needlegrass, other perennial forbs
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Ferver and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 15 percent
 Landform: Toeslopes of plateaus
 Typical vegetation: Thurber's needlegrass, Webber needlegrass, other perennial forbs, bluegrass, low sagebrush
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Bucklake and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 50 percent, east to west aspects
 Landform: East to west aspects on plateaus

Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

498—Old Camp-Gorzell-Macnot association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,500 to 5,480
 Precipitation: 8 to 11 inches
 Air temperature: 44 to 50 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Old Camp very cobbly loam, 4 to 30 percent slopes—40 percent
 Gorzell gravelly loam, 4 to 8 percent slopes—25 percent
 Macnot very gravelly ashy sandy loam, 2 to 8 percent slopes—20 percent
 Mcwatt very gravelly fine sandy loam, 4 to 15 percent slopes—8 percent
 Glasshawk very gravelly ashy loam, 2 to 8 percent slopes—5 percent
 Saraph very gravelly ashy sandy loam, 4 to 8 percent slopes—2 percent

Component Description

Old Camp and similar soils

Landform: Plateaus
 Slope: 4 to 30 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Other shrubs, Wyoming big sagebrush, other perennial forbs, Thurber's needlegrass, Indian ricegrass, other perennial grasses

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1—0 to 2 inches; very cobbly loam
 Layer 2—2 to 14 inches; extremely stony clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Gorzell and similar soils

Landform: Beach terraces
 Slope: 4 to 8 percent
 Parent material: Alluvium derived from mixed-igneous & sedimentary rocks
 Typical vegetation: Wyoming big sagebrush, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 8 inches; gravelly loam
 Layer 2—8 to 12 inches; gravelly clay loam
 Layer 3—12 to 30 inches; gravelly clay loam
 Layer 4—30 to 60 inches; stratified extremely gravelly coarse sand to very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Macnot and similar soils

Landform: Beach terraces
 Slope: 2 to 8 percent
 Parent material: Volcanic ash and alluvium derived from volcanic rocks
 Typical vegetation: Other shrubs, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, spiny hopsage

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
 Layer 2—1 to 6 inches; gravelly ashy sandy loam
 Layer 3—6 to 16 inches; very gravelly ashy sandy loam
 Layer 4—16 to 24 inches; very gravelly ashy loamy sand
 Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mcwatt and similar soils

Composition: 0 to 8 percent
 Slope: 4 to 15 percent
 Landform: Beach terraces
 Typical vegetation: Spiny hopsage, other shrubs, Wyoming big sagebrush, Sandberg bluegrass, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Glasshawk and similar soils

Composition: 0 to 5 percent

Slope: 2 to 8 percent

Landform: Beach terraces

Typical vegetation: Shadscale, bottlebrush squirreltail, bud sagebrush, Indian ricegrass, other shrubs

Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Saraph and similar soils

Composition: 0 to 2 percent

Slope: 4 to 8 percent

Landform: Summits of rock pediments

Typical vegetation: Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

**499—Old Camp-Mcwatt association
Map Unit Setting**

MLRA: 23

Landscape: Basin

Elevation: 4,580 to 5,330

Precipitation: 8 to 10 inches

Air temperature: 45 to 49 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Old Camp very gravelly loam, 8 to 30 percent slopes—50 percent

Mcwatt very stony sandy loam, 4 to 15 percent slopes—35 percent

Macnot very gravelly ashy sandy loam, 2 to 8 percent slopes—8 percent

Glasshawk very gravelly ashy loam, 2 to 8 percent slopes—4 percent

Skedaddle very gravelly sandy loam, 4 to 15 percent slopes—3 percent

Component Description**Old Camp and similar soils**

Landform: Backslopes of plateaus

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 2 inches; very gravelly loam

Layer 2—2 to 14 inches; extremely stony clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description**Mcwatt and similar soils**

Landform: Beach terraces

Slope: 4 to 15 percent

Parent material: Alluvium derived from igneous and sedimentary rock

Typical vegetation: Wyoming big sagebrush, Sandberg bluegrass, bottlebrush squirreltail, spiny hopsage, Thurber's needlegrass, Indian ricegrass, other shrubs

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 10 inches; very stony sandy loam

Layer 2—10 to 20 inches; extremely gravelly fine sandy loam

Layer 3—20 to 44 inches; extremely gravelly sand

Layer 4—44 to 54 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Macnot and similar soils

Composition: 0 to 8 percent
Slope: 2 to 8 percent
Landform: Beach terraces
Typical vegetation: Bottlebrush squirreltail, Sandberg bluegrass, Indian ricegrass, Thurber's needlegrass, spiny hopsage, other shrubs, Wyoming big sagebrush
Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Glasshawk and similar soils

Composition: 0 to 4 percent
Slope: 2 to 8 percent
Landform: Beach terraces
Typical vegetation: Bottlebrush squirreltail, Indian ricegrass, bud sagebrush, shadscale, other shrubs
Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Skedaddle and similar soils

Composition: 0 to 3 percent
Slope: 4 to 15 percent
Landform: Backslopes of plateaus
Typical vegetation: Other perennial forbs, Indian ricegrass, bottlebrush squirreltail, other shrubs, Wyoming big sagebrush, other perennial grasses
Ecological site: R023XY088NV—Chalky knoll

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

500—Old Camp-Reywat-Rubble land association

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 4,940 to 6,100
Precipitation: 9 to 13 inches
Air temperature: 44 to 52 degrees Fahrenheit
Frost-free period: 70 to 100 days

Composition

Old Camp very stony loam, 30 to 75 percent slopes—40 percent
Reywat very stony loam, 30 to 75 percent slopes—30 percent
Rubble land, 30 to 75 percent slopes—15 percent
Lithic Xeric Torriorthents very stony sandy loam, 30 to 75 percent slopes—7 percent
Wylo very stony fine sandy loam, 4 to 30 percent slopes—5 percent
Weezweed ashy loam, 0 to 2 percent slopes—2 percent
Wetvit ashy fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description

Old Camp and similar soils

Landform: Plateaus
Slope: 30 to 75 percent
Parent material: Colluvium and/or residuum weathered from volcanic rock
Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 23 percent stones, 10 percent cobbles, 18 percent gravel
Layer 1—0 to 2 inches; very stony loam
Layer 2—2 to 14 inches; extremely stony clay loam
Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Reywat and similar soils

Landform: Backslopes of plateaus
 Slope: 30 to 75 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 26 percent stones, 10 percent cobbles, 15 percent gravel
 Layer 1—0 to 6 inches; very stony loam
 Layer 2—6 to 18 inches; very gravelly clay loam
 Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Rubble land

Landform: Plateaus
 Slope: 30 to 75 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lithic Xeric Torriorthents and similar soils

Composition: 0 to 7 percent
 Classification: Loamy-skeletal, mixed, superactive, calcareous, mesic Lithic Xeric Torriorthents
 Slope: 30 to 75 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, bottlebrush squirreltail, Indian ricegrass
 Ecological site: R023XY088NV—Chalky knoll

Wylo and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 30 percent
 Landform: Plateaus
 Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs, Lahontan sagebrush
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Weezweed and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Stream terraces
 Typical vegetation: Western wheatgrass, basin big sagebrush, other perennial forbs, basin wildrye, Nevada bluegrass
 Ecological site: R023XY005NV—Dry floodplain

Wetvit and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 2 percent
 Landform: Flood plains
 Typical vegetation: Sedge, Nevada bluegrass, other perennial grasses, other perennial forbs
 Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section

"Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

501—Old Camp-Saraph association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,730 to 5,900
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Old Camp very stony sandy loam, 8 to 30 percent slopes—50 percent
 Saraph very cobbly ashy sandy loam, 8 to 30 percent slopes—35 percent
 Ceejay very stony loam, 4 to 15 percent slopes—6 percent
 Ferver very cobbly loam, 2 to 8 percent slopes—4 percent
 Reywat very stony loam, 15 to 50 percent slopes—3 percent
 Macnot gravelly ashy sandy loam, 2 to 4 percent slopes—2 percent

Component Description

Old Camp and similar soils

Landform: Backslopes of plateaus
 Slope: 8 to 30 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Indian ricegrass, other shrubs, Wyoming big sagebrush, Thurber's needlegrass, other perennial grasses, other perennial forbs

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 2 inches; very stony sandy loam
 Layer 2—2 to 14 inches; extremely stony clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Saraph and similar soils

Landform: Summits of rock pediments
 Slope: 8 to 30 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 4 percent stones
 Layer 1—0 to 4 inches; very cobbly ashy sandy loam
 Layer 2—4 to 9 inches; ashy sandy loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ceejay and similar soils

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Backslopes of smooth upper plateaus

Typical vegetation: Other perennial forbs, other shrubs, Lahontan sagebrush, Indian ricegrass, Thurber's needlegrass, Webber needlegrass

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Ferver and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Toeslopes of plateaus

Typical vegetation: Bluegrass, low sagebrush, Webber needlegrass, Thurber's needlegrass, other perennial forbs

Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Reywat and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent, northwest to northeast aspects

Landform: Northwest to northeast aspects on backslopes of plateaus

Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Macnot and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Alluvial fans

Typical vegetation: Spiny hopsage, other perennial forbs, thickspike wheatgrass, basin wildrye, big sagebrush, other shrubs

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

502—Old Camp-Skedaddle association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,910 to 5,790

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Old Camp very stony loam, 15 to 50 percent slopes—60 percent

Skedaddle very stony loam, 30 to 50 percent slopes—30 percent

Mcwatt very gravelly fine sandy loam, 15 to 30 percent slopes—6 percent

Skedaddle very gravelly sandy loam, 4 to 15 percent slopes—3 percent

Rock outcrop—1 percent

Component Description

Old Camp and similar soils

Landform: Plateaus

Slope: 15 to 50 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 2 inches; very stony loam

Layer 2—2 to 14 inches; extremely stony clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Skedaddle and similar soils

Landform: West to east aspects on backslopes of plateaus

Slope: 30 to 50 percent, west to east aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Desert needlegrass, other perennial forbs, other shrubs, Wyoming big sagebrush, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 5 inches; very stony loam

Layer 2—5 to 11 inches; very gravelly loam

Layer 2—11 to 21 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 4 to 12 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 0.9 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY101NV—Stony slope 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mcwatt and similar soils

Composition: 0 to 6 percent

Slope: 15 to 30 percent

Landform: Beach terraces

Typical vegetation: Other shrubs, Wyoming big sagebrush, Sandberg bluegrass, bottlebrush squirreltail, Thurber's needlegrass, spiny hopsage, Indian ricegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Skedaddle and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial forbs, other perennial grasses, Wyoming big sagebrush, other shrubs

Ecological site: R023XY088NV—Chalky knoll

Rock outcrop

Composition: 0 to 1 percent

Landform: Plateaus

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

503—Paynepeak gravelly ashy loam, 4 to 30 percent slopes

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,790 to 8,090

Precipitation: 30 to 50 inches

Air temperature: 39 to 43 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—85 percent

Pyropatti gravelly ashy loam, cool, 2 to 30 percent slopes—4 percent

Dawgbuffer very gravelly ashy sandy loam, 4 to 15 percent slopes—2 percent

Fendersflat gravelly ashy loam, 4 to 30 percent slopes—2 percent

Aquandic Cryaquolls ashy loam, cool, 0 to 8 percent slopes—1 percent

Fingerridge extremely gravelly ashy loam, cool, 2 to 15 percent slopes—1 percent

Histic Cryaquolls muck, cool, 2 to 8 percent slopes—1 percent

Lithic Xerorthents very gravelly ashy sandy loam, 8 to 30 percent slopes—1 percent

Nowack very gravelly mucky ashy loam, cool, 4 to 30 percent slopes—1 percent

Rock outcrop, 30 to 75 percent slopes—1 percent
 Vitrandic Argicryolls very gravelly ashy sandy loam, cool,
 15 to 50 percent slopes—1 percent

Component Description

Paynepeak and similar soils

Landform: Mountain slopes
 Slope: 4 to 30 percent
 Parent material: Volcanic ash and/or colluvium and/or
 residuum weathered from volcanic rock
 Typical vegetation: Needlegrass, mountain brome,
 bluegrass, other perennial grasses, other perennial
 forbs, mountain big sagebrush, other shrubs,
 roundleaf snowberry

Typical profile:

Surface rock fragments: About 30 percent gravel, 10
 percent cobbles, 2 percent stones
 Layer 1—0 to 13 inches; gravelly ashy loam
 Layer 2—13 to 32 inches; very gravelly ashy loam
 Layer 3—32 to 43 inches; very gravelly ashy loam
 Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60
 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderate)
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE222CA—Loamy slope

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions

Pyropatti cool and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Quaking aspen, roundleaf
 snowberry, mountain big sagebrush, other perennial
 forbs, mountain brome
 Ecological site: R021XE216CA—Aspen thicket

Dawgbuffer and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, bluebunch
 wheatgrass, needlegrass, mountain brome,
 bluegrass, mountain big sagebrush, curl-leaf
 mountain mahogany, roundleaf snowberry, other
 trees
 Ecological site: R021XE210CA—Mahogany Savanna

Fendersflat and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Roundleaf snowberry, other shrubs,
 mountain big sagebrush, other perennial forbs,
 mountain brome, bluebunch wheatgrass,
 needlegrass, Sandberg bluegrass
 Ecological site: R021XE206CA—Mountain shoulders

Aquandic Cryaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy Aquandic Cryaquolls
 Slope: 0 to 8 percent
 Landform: Intermontane basins
 Typical vegetation: Other shrubs, other perennial forbs,
 carex, willow, other perennial grasses
 Ecological site: R021XE225CA—Willow thicket

Fingerridge and similar soils

Composition: 0 to 1 percent
 Slope: 2 to 15 percent
 Landform: Mountain slopes
 Typical vegetation: Idaho fescue, other perennial forbs,
 low sagebrush, Sandberg bluegrass
 Ecological site: R021XE202CA—Mountain ridge

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy Histic Cryaquolls
 Slope: 2 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, sedge, other
 perennial grasses, rush, tufted hairgrass
 Ecological site: R021XE226CA—Seep

Lithic Xerorthents and similar soils

Composition: 0 to 1 percent
 Classification: Ashy-skeletal, glassy, nonacid, frigid Lithic
 Xerorthents
 Slope: 8 to 30 percent
 Landform: Backslopes of mountains

Typical vegetation: Cusick's bluegrass, other perennial grasses, other perennial forbs, goldenbush, other shrubs

Ecological site: R021XE219CA—Eroded slope

Nowack and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—roundleaf snowberry, other perennial forbs, mountain brome, white fir, other shrubs, Ross' sedge, other perennial grasses, currant

Ecological site: F021XE231CA

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Vitrantic Argicryolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy Vitrantic Argicryolls

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Mountain big sagebrush, snowberry, bitter cherry, mountain brome

Ecological site: R021XE215CA—Prunus pocket

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

504—Paynepeak, steep-Skidbrackle association

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 7,000 to 8,200

Precipitation: 30 to 50 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Paynepeak gravelly ashy loam, cool, 30 to 50 percent slopes—55 percent

Skidbrackle very gravelly ashy sandy loam, cool, 8 to 30 percent slopes—30 percent

Lithic Xerorthents very gravelly ashy sandy loam, 30 to 75 percent slopes—6 percent

Rock outcrop, 30 to 90 percent slopes—3 percent

Pyropatti gravelly ashy loam, cool, 30 to 50 percent slopes—2 percent

Vitrantic Argicryolls gravelly ashy loam, cool, 4 to 30 percent slopes—2 percent

Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—1 percent

Histic Cryaquolls muck, cool, 2 to 8 percent slopes—1 percent

Component Description

Paynepeak and similar soils

Landform: Mountain slopes

Slope: 30 to 50 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Needlegrass, mountain big sagebrush, other perennial forbs, roundleaf snowberry, other shrubs, other perennial grasses, bluegrass, mountain brome

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones

Layer 1—0 to 13 inches; gravelly ashy loam

Layer 2—13 to 32 inches; very gravelly ashy loam

Layer 3—32 to 43 inches; very gravelly ashy loam

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE222CA—Loamy slope

Component Description

Skidbrackle and similar soils

Landform: Mountain slopes

Slope: 8 to 30 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other shrubs, Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, other perennial forbs, low sagebrush

Typical profile:

Surface rock fragments: About 45 percent gravel, 10 percent cobbles, 0 percent stones

Layer 1—0 to 4 inches; very gravelly ashy sandy loam

Layer 2—4 to 14 inches; extremely gravelly ashy loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE221CA—Claypan

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Lithic Xerorthents and similar soils

Composition: 0 to 6 percent

Classification: Ashy-skeletal, glassy, nonacid, frigid Lithic Xerorthents

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Other perennial grasses, other perennial forbs, goldenbush, Cusick's bluegrass, other shrubs

Ecological site: R021XE219CA—Eroded slope

Rock outcrop

Composition: 0 to 3 percent

Slope: 30 to 90 percent

Landform: Backslopes of escarpments

Pyropatti cool and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Quaking aspen, mountain big sagebrush, other perennial forbs, mountain brome, roundleaf snowberry

Ecological site: R021XE216CA—Aspen thicket

Vitrandic Argicryolls and similar soils

Composition: 0 to 2 percent

Classification: Ashy-skeletal, glassy Vitrandic Argicryolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, other shrubs, mountain big sagebrush, other perennial forbs, mountain brome, bluebunch wheatgrass, Sandberg bluegrass, needlegrass

Ecological site: R021XE206CA—Mountain shoulders

Dawgbuffer and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Needlegrass, mountain brome, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, roundleaf snowberry, other trees, curl-leaf mountain mahogany, bluegrass

Ecological site: R021XE210CA—Mahogany Savanna

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 2 to 8 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, other perennial grasses, rush, tufted hairgrass, sedge

Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

505—Paynepeak-Fendersflat association

Map Unit Setting

MLRA: 21

Landscape: Mountains
 Elevation: 6,140 to 8,970
 Precipitation: 20 to 50 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 30 to 70 days

Composition

Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—55 percent
 Fendersflat gravelly ashy loam, 15 to 50 percent slopes—30 percent
 Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—5 percent
 Skidbrackle very gravelly ashy sandy loam, cool, 4 to 15 percent slopes—4 percent
 Pyropatti gravelly ashy loam, cool, 4 to 15 percent slopes—3 percent
 Lyonman gravelly ashy sandy loam, 8 to 30 percent slopes—2 percent
 Rock outcrop, 30 to 75 percent slopes—1 percent

Component Description

Paynepeak and similar soils

Landform: Mountain slopes
 Slope: 4 to 30 percent
 Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Mountain brome, other shrubs, other perennial grasses, other perennial forbs, mountain big sagebrush, roundleaf snowberry, needlegrass, bluegrass

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones
 Layer 1—0 to 13 inches; gravelly ashy loam
 Layer 2—13 to 32 inches; very gravelly ashy loam
 Layer 3—32 to 43 inches; very gravelly ashy loam
 Layer 4—43 to 53 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE222CA—Loamy slope

Component Description

Fendersflat and similar soils

Landform: Mountain slopes
 Slope: 15 to 50 percent
 Parent material: Volcanic ash, colluvium derived from pyroclastic rock and colluvium derived from volcanic rock
 Typical vegetation: Roundleaf snowberry, other perennial grasses, Idaho fescue, other perennial forbs, Sandberg bluegrass, sedge, other shrubs, mountain big sagebrush

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent gravel, 3 percent stones
 Layer 1—0 to 7 inches; gravelly ashy loam
 Layer 2—7 to 25 inches; extremely cobbly ashy loam
 Layer 3—25 to 35 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE229CA—Ashy slope

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dawgbuffer and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes

Typical vegetation: Bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, roundleaf snowberry, other trees, bluegrass, needlegrass, mountain brome
 Ecological site: R021XE210CA—Mahogany Savanna

Skidbrackle and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Mountain slopes
 Typical vegetation: Other shrubs, low sagebrush, other perennial forbs, other perennial grasses, Thurber's needlegrass, bluegrass, Idaho fescue
 Ecological site: R021XE221CA—Claypan

Pyropatti cool and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, mountain big sagebrush, quaking aspen, mountain brome, roundleaf snowberry
 Ecological site: R021XE216CA—Aspen thicket

Lyonman cool and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Forest canopy—Washoe pine
 Forest understory—other perennial forbs, Washoe pine, other shrubs, roundleaf snowberry, other perennial grasses, Wheeler bluegrass, Ross' sedge, mountain brome
 Ecological site: F021XE236CA

Rock outcrop

Composition: 0 to 1 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Forest land" section
- "Engineering" and "Soil Properties" sections

506—Paynepeak-Fendersflat, cool association

Map Unit Setting

MLRA: 21

Landscape: Mountains
 Elevation: 5,200 to 8,940
 Precipitation: 20 to 50 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 30 to 70 days

Composition

Paynepeak gravelly ashy loam, cool, 15 to 50 percent slopes—60 percent
 Fendersflat gravelly ashy loam, 15 to 50 percent slopes—25 percent
 Fendersflat gravelly ashy loam, 30 to 50 percent slopes—3 percent
 Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—2 percent
 Fingerridge extremely gravelly ashy loam, cool, 2 to 15 percent slopes—2 percent
 Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—2 percent
 Skidbrackle very gravelly ashy sandy loam, cool, 2 to 30 percent slopes—2 percent
 Lithic Xerorthents very gravelly ashy sandy loam, 30 to 75 percent slopes—1 percent
 Nowack very gravelly mucky ashy loam, cool, 15 to 50 percent slopes—1 percent
 Rock outcrop, 30 to 75 percent slopes—1 percent
 Vitrandic Argicryolls very gravelly ashy sandy loam, cool, 15 to 50 percent slopes—1 percent

Component Description

Paynepeak and similar soils

Landform: Mountain slopes
 Slope: 15 to 50 percent
 Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Mountain brome, other perennial grasses, roundleaf snowberry, other shrubs, mountain big sagebrush, other perennial forbs, bluegrass, needlegrass

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones
 Layer 1—0 to 13 inches; gravelly ashy loam
 Layer 2—13 to 32 inches; very gravelly ashy loam
 Layer 3—32 to 43 inches; very gravelly ashy loam
 Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE222CA—Loamy slope

Component Description

Fendersflat cool and similar soils

Landform: Mountain slopes

Slope: 15 to 50 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and colluvium derived from volcanic rock

Typical vegetation: Sandberg bluegrass, mountain big sagebrush, other shrubs, roundleaf snowberry, needlegrass, other perennial forbs, mountain brome, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent gravel, 3 percent stones

Layer 1—0 to 7 inches; gravelly ashy loam

Layer 2—7 to 25 inches; extremely cobbly ashy loam

Layer 3—25 to 35 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE206CA—Mountain shoulders

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fendersflat and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Mountain brome, other perennial grasses, other shrubs, bluegrass, needlegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Ecological site: R021XE224CA—South slope

Dawgbuffer and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Needlegrass, mountain brome, roundleaf snowberry, other trees, curl-leaf mountain mahogany, bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush

Ecological site: R021XE210CA—Mahogany Savanna

Fingerridge and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Mountain slopes

Typical vegetation: Low sagebrush, other perennial forbs, Idaho fescue, Sandberg bluegrass

Ecological site: R021XE202CA—Mountain ridge

Pyropatti cool and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, quaking aspen, mountain big sagebrush, other perennial forbs, mountain brome

Ecological site: R021XE216CA—Aspen thicket

Skidbrackle and similar soils

Composition: 0 to 2 percent

Slope: 2 to 30 percent

Landform: Mountain slopes

Typical vegetation: Other shrubs, Idaho fescue, low sagebrush, other perennial forbs, other perennial grasses, bluegrass, Thurber's needlegrass

Ecological site: R021XE221CA—Claypan

Lithic Xerorthents and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, nonacid, frigid Lithic Xerorthents

Slope: 30 to 75 percent

Landform: Backslopes of mountains

Typical vegetation: Cusick's bluegrass, other shrubs, goldenbush, other perennial grasses, other perennial forbs

Ecological site: R021XE219CA—Eroded slope

Nowack and similar soils

Composition: 0 to 1 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—currant, other perennial forbs, other perennial grasses, roundleaf snowberry, white fir, Ross' sedge, mountain brome, other shrubs

Ecological site: F021XE231CA

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Vitrandic Argicryolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy Vitrandic Argicryolls

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Mountain brome, mountain big sagebrush, snowberry, bitter cherry

Ecological site: R021XE215CA—Prunus pocket

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

507—Paynepeak-Fendersflat, south aspect association

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,460 to 7,700

Precipitation: 20 to 50 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 30 to 70 days

Composition

Paynepeak gravelly ashy loam, cool, 15 to 50 percent slopes—50 percent

Fendersflat gravelly ashy loam, 30 to 50 percent slopes—35 percent

Fendersflat gravelly ashy loam, 30 to 50 percent slopes—3 percent

Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—2 percent

Nowack very gravelly mucky ashy loam, cool, 15 to 50 percent slopes—2 percent

Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—2 percent

Skidbrackle very gravelly ashy sandy loam, cool, 2 to 30 percent slopes—2 percent

Fingerridge extremely gravelly ashy loam, cool, 2 to 15 percent slopes—1 percent

Histic Cryaquolls muck, cool, 2 to 8 percent slopes—1 percent

Rock outcrop, 30 to 75 percent slopes—1 percent

Vitrandic Argicryolls very gravelly ashy sandy loam, cool, 15 to 50 percent slopes—1 percent

Component Description

Paynepeak and similar soils

Landform: Mountain slopes

Slope: 15 to 50 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Roundleaf snowberry, other shrubs, mountain big sagebrush, other perennial forbs, other perennial grasses, bluegrass, mountain brome, needlegrass

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones

Layer 1—0 to 13 inches; gravelly ashy loam

Layer 2—13 to 32 inches; very gravelly ashy loam

Layer 3—32 to 43 inches; very gravelly ashy loam

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE222CA—Loamy slope

Component Description

Fendersflat and similar soils

Landform: Mountain slopes

Slope: 30 to 50 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and colluvium derived from volcanic rock

Typical vegetation: Other shrubs, antelope bitterbrush, needlegrass, mountain brome, other perennial grasses, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, bluegrass

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent gravel, 3 percent stones

Layer 1—0 to 7 inches; gravelly ashy loam

Layer 2—7 to 25 inches; extremely cobbly ashy loam

Layer 3—25 to 35 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE224CA—South slope

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fendersflat and similar soils

Composition: 0 to 3 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, other shrubs, other perennial forbs, bluebunch wheatgrass, Sandberg bluegrass, mountain big sagebrush, needlegrass, mountain brome

Ecological site: R021XE206CA—Mountain shoulders

Dawgbuffer and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Bluegrass, other perennial forbs, bluebunch wheatgrass, mountain big sagebrush, needlegrass, mountain brome, curl-leaf mountain mahogany, roundleaf snowberry, other trees

Ecological site: R021XE210CA—Mahogany Savanna

Nowack and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—roundleaf snowberry, other shrubs, white fir, mountain brome, Ross' sedge, other perennial grasses, currant, other perennial forbs

Ecological site: F021XE231CA

Pyropatti cool and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, other perennial forbs, mountain big sagebrush, quaking aspen, mountain brome

Ecological site: R021XE216CA—Aspen thicket

Skidbrackle and similar soils

Composition: 0 to 2 percent

Slope: 2 to 30 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, low sagebrush, other shrubs, Idaho fescue, bluegrass, other perennial grasses, Thurber's needlegrass

Ecological site: R021XE221CA—Claypan

Fingerridge and similar soils

Composition: 0 to 1 percent

Slope: 2 to 15 percent

Landform: Mountain slopes

Typical vegetation: Idaho fescue, Sandberg bluegrass, other perennial forbs, low sagebrush

Ecological site: R021XE202CA—Mountain ridge

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 2 to 8 percent

Landform: Mountain slopes

Typical vegetation: Other perennial grasses, other perennial forbs, rush, sedge, tufted hairgrass
Ecological site: R021XE226CA—Seep

Rock outcrop

Composition: 0 to 1 percent
Slope: 30 to 75 percent
Landform: Backslopes of escarpments

Vitrandid Argicryolls and similar soils

Composition: 0 to 1 percent
Classification: Ashy-skeletal, glassy Vitrandid Argicryolls
Slope: 15 to 50 percent
Landform: Mountain slopes
Typical vegetation: Snowberry, mountain big sagebrush, mountain brome, bitter cherry
Ecological site: R021XE215CA—Prunus pocket

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

508—Paynepeak-Fendersflat-Pyropatti association

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 6,290 to 8,620
Precipitation: 20 to 50 inches
Air temperature: 37 to 45 degrees Fahrenheit
Frost-free period: 30 to 70 days

Composition

Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—60 percent
Fendersflat gravelly ashy loam, 15 to 30 percent slopes—15 percent
Pyropatti gravelly ashy loam, cool, 4 to 30 percent slopes—10 percent
Pyropatti gravelly ashy loam, cool, 2 to 15 percent slopes—6 percent
Boulderfan ashy loam, 2 to 8 percent slopes—3 percent
Lyonman gravelly ashy sandy loam, 8 to 30 percent slopes—2 percent
Skidbrackle very gravelly ashy sandy loam, cool, 4 to 15 percent slopes—2 percent
Dismalswamp ashy loam, cool, 2 to 15 percent slopes—1 percent
Rock outcrop, 30 to 75 percent slopes—1 percent

Component Description

Paynepeak and similar soils

Landform: Mountain slopes
Slope: 4 to 30 percent
Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock
Typical vegetation: Mountain big sagebrush, other perennial forbs, other perennial grasses, bluegrass, mountain brome, needlegrass, other shrubs, roundleaf snowberry

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones
Layer 1—0 to 13 inches; gravelly ashy loam
Layer 2—13 to 32 inches; very gravelly ashy loam
Layer 3—32 to 43 inches; very gravelly ashy loam
Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
Available water capacity: About 7 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: R021XE222CA—Loamy slope

Component Description

Fendersflat and similar soils

Landform: Mountain slopes
Slope: 15 to 30 percent
Parent material: Volcanic ash, colluvium derived from pyroclastic rock and colluvium derived from volcanic rock
Typical vegetation: Sedge, roundleaf snowberry, other shrubs, other perennial forbs, Sandberg bluegrass, mountain big sagebrush, Idaho fescue, other perennial grasses

Typical profile:

Surface rock fragments: About 25 percent cobbles, 5 percent gravel, 3 percent stones
Layer 1—0 to 7 inches; gravelly ashy loam
Layer 2—7 to 25 inches; extremely cobbly ashy loam

Layer 3—25 to 35 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE229CA—Ashy slope

Component Description

Pyropatti cool and similar soils

Landform: Mountain slopes

Slope: 4 to 30 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Roundleaf snowberry, mountain brome, other perennial forbs, mountain big sagebrush, quaking aspen

Typical profile:

Surface rock fragments: About 25 percent gravel, 0 percent cobbles, 0 percent stones

Layer 1—0 to 9 inches; gravelly ashy loam

Layer 2—9 to 20 inches; very gravelly ashy loam

Layer 3—20 to 30 inches; very gravelly ashy loam

Layer 4—30 to 48 inches; very gravelly ashy loam

Layer 5—48 to 58 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Water table: Present

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE216CA—Aspen thicket

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Pyropatti and similar soils

Composition: 0 to 6 percent

Slope: 2 to 15 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen
Forest understory—quaking aspen, mountain big sagebrush, other perennial forbs, other perennial grasses, slender wheatgrass, mountain brome, roundleaf snowberry

Ecological site: F021XE233CA

Boulderfan and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Ground moraines

Typical vegetation: Needlegrass, other perennial grasses, other perennial forbs, silver sagebrush, roundleaf snowberry

Ecological site: R021XE203CA—Moist mountain basin

Lyonman cool and similar soils

Composition: 0 to 2 percent

Slope: 8 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—Washoe pine
Forest understory—other shrubs, mountain brome, Ross' sedge, Wheeler bluegrass, other perennial grasses, other perennial forbs, Washoe pine, roundleaf snowberry

Ecological site: F021XE236CA

Skidbrackle and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Mountain slopes

Typical vegetation: Low sagebrush, other perennial forbs, other perennial grasses, bluegrass, other shrubs, Thurber's needlegrass, Idaho fescue

Ecological site: R021XE221CA—Claypan

Dismalswamp and similar soils

Composition: 0 to 1 percent

Slope: 2 to 15 percent

Landform: Mountain valleys

Typical vegetation: Willow, silver sagebrush, other perennial forbs, Nebraska sedge, tufted hairgrass, sedge, Baltic rush, meadow barley

Ecological site: R021XE208CA—Semi-wet meadow

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

509—Paynepeak-Fingeridge association**Map Unit Setting**

MLRA: 21

Landscape: Mountains

Elevation: 5,970 to 8,300

Precipitation: 30 to 50 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—60 percent

Fingeridge extremely gravelly ashy loam, cool, 2 to 15 percent slopes—25 percent

Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—4 percent

Fendersflat gravelly ashy loam, 8 to 30 percent slopes—2 percent

Skidbrackle very gravelly ashy sandy loam, cool, 2 to 30 percent slopes—2 percent

Vitrandic Cryorthents very gravelly ashy sandy loam, 8 to 30 percent slopes—2 percent

Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—1 percent

Dismalswamp ashy loam, cool, 0 to 8 percent slopes—1 percent

Histic Cryaquolls muck, cool, 2 to 8 percent slopes—1 percent

Rock outcrop, 30 to 75 percent slopes—1 percent

Vitrandic Cryorthents very gravelly ashy sandy loam, 8 to 30 percent slopes—1 percent

Component Description**Paynepeak and similar soils**

Landform: Mountain slopes

Slope: 4 to 30 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Other perennial grasses, other perennial forbs, bluegrass, mountain brome, mountain big sagebrush, roundleaf snowberry, other shrubs, needlegrass

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones

Layer 1—0 to 13 inches; gravelly ashy loam

Layer 2—13 to 32 inches; very gravelly ashy loam

Layer 3—32 to 43 inches; very gravelly ashy loam

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE222CA—Loamy slope

Component Description**Fingeridge and similar soils**

Landform: Mountain slopes

Slope: 2 to 15 percent

Parent material: Volcanic ash and/or colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Sandberg bluegrass, Idaho fescue, other perennial forbs, low sagebrush

Typical profile:

Surface rock fragments: About 70 percent cobbles, 5 percent stones, 20 percent gravel

Layer 1—0 to 6 inches; extremely gravelly ashy loam
 Layer 2—6 to 13 inches; extremely gravelly ashy loam
 Layer 3—13 to 23 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE202CA—Mountain ridge

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Pyropatti cool and similar soils

Composition: 0 to 4 percent
 Slope: 8 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Quaking aspen, mountain big sagebrush, other perennial forbs, mountain brome, roundleaf snowberry
 Ecological site: R021XE216CA—Aspen thicket

Fendersflat and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Roundleaf snowberry, other shrubs, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, Sandberg bluegrass, mountain brome, needlegrass
 Ecological site: R021XE206CA—Mountain shoulders

Skidbrackle and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Idaho fescue, bluegrass, other perennial grasses, other perennial forbs, low sagebrush, Thurber's needlegrass, other shrubs

Ecological site: R021XE221CA—Claypan

Vitrandic Cryorthents and similar soils

Composition: 0 to 2 percent
 Classification: Ashy-skeletal, glassy, nonacid Vitrandic Cryorthents
 Slope: 8 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Other perennial forbs, other perennial grasses, bluegrass, needlegrass, mountain big sagebrush, other shrubs, roundleaf snowberry, mountain brome
 Ecological site: R021XE222CA—Loamy slope

Dawgbuffer and similar soils

Composition: 0 to 1 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Roundleaf snowberry, curl-leaf mountain mahogany, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, bluegrass, mountain brome, needlegrass, other trees
 Ecological site: R021XE210CA—Mahogany Savanna

Dismalswamp and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 8 percent
 Landform: Intermontane basins
 Typical vegetation: Sedge, tufted hairgrass, meadow barley, Baltic rush, other perennial forbs, silver sagebrush, willow, Nebraska sedge
 Ecological site: R021XE208CA—Semi-wet meadow

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy Histic Cryaquolls
 Slope: 2 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Sedge, rush, tufted hairgrass, other perennial grasses, other perennial forbs
 Ecological site: R021XE226CA—Seep

Rock outcrop

Composition: 0 to 1 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of escarpments

Vitrandic Cryorthents and similar soils

Composition: 0 to 1 percent
 Classification: Ashy-skeletal, glassy, nonacid Vitrandic Cryorthents
 Slope: 8 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Yellow rabbitbrush, other perennial forbs, other perennial grasses, needlegrass, other shrubs, buckwheat

Ecological site: R021XE220CA—Snow pocket

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

520—Paynepeak-Pyropatti-Fingeridge association

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,610 to 8,020

Precipitation: 20 to 50 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Paynepeak gravelly ashy loam, cool, 8 to 30 percent slopes—50 percent

Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—20 percent

Fingerridge extremely gravelly ashy loam, cool, 2 to 15 percent slopes—15 percent

Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—5 percent

Pyropatti gravelly ashy loam, cool, 2 to 15 percent slopes—4 percent

Aquandic Cryaquolls ashy loam, cool, 2 to 8 percent slopes—2 percent

Histic Cryaquolls muck, cool, 2 to 8 percent slopes—2 percent

Rock outcrop, 30 to 75 percent slopes—2 percent

Component Description

Paynepeak and similar soils

Landform: Mountain slopes

Slope: 8 to 30 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Bluegrass, needlegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs, roundleaf snowberry, mountain brome

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones

Layer 1—0 to 13 inches; gravelly ashy loam

Layer 2—13 to 32 inches; very gravelly ashy loam

Layer 3—32 to 43 inches; very gravelly ashy loam

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE222CA—Loamy slope

Component Description

Pyropatti cool and similar soils

Landform: Mountain slopes

Slope: 8 to 30 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Mountain brome, other perennial forbs, mountain big sagebrush, quaking aspen, roundleaf snowberry

Typical profile:

Surface rock fragments: About 25 percent gravel, 0 percent cobbles, 0 percent stones

Layer 1—0 to 9 inches; gravelly ashy loam

Layer 2—9 to 20 inches; very gravelly ashy loam

Layer 3—20 to 30 inches; very gravelly ashy loam

Layer 4—30 to 48 inches; very gravelly ashy loam

Layer 5—48 to 58 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Water table: Present
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE216CA—Aspen thicket

Component Description

Fingerridge and similar soils

Landform: Mountain slopes
 Slope: 2 to 15 percent
 Parent material: Volcanic ash and/or colluvium derived from volcanic rock and/or residuum weathered from volcanic rock
 Typical vegetation: Sandberg bluegrass, low sagebrush, other perennial forbs, Idaho fescue

Typical profile:

Surface rock fragments: About 70 percent cobbles, 20 percent gravel, 5 percent stones
 Layer 1—0 to 6 inches; extremely gravelly ashy loam
 Layer 2—6 to 13 inches; extremely gravelly ashy loam
 Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R021XE202CA—Mountain ridge

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dawgbuffer and similar soils

Composition: 0 to 5 percent

Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Needlegrass, mountain brome, bluegrass, mountain big sagebrush, curl-leaf mountain mahogany, roundleaf snowberry, other trees, other perennial forbs, bluebunch wheatgrass
 Ecological site: R021XE210CA—Mahogany Savanna

Pyropatti and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 15 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—mountain brome, slender wheatgrass, other perennial grasses, other perennial forbs, mountain big sagebrush, quaking aspen, roundleaf snowberry
 Ecological site: F021XE233CA

Aquandic Cryaquolls and similar soils

Composition: 0 to 2 percent
 Classification: Ashy, glassy Aquandic Cryaquolls
 Slope: 2 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, willow, other shrubs, carex, other perennial grasses
 Ecological site: R021XE225CA—Willow thicket

Histic Cryaquolls and similar soils

Composition: 0 to 2 percent
 Classification: Ashy, glassy Histic Cryaquolls
 Slope: 2 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Sedge, tufted hairgrass, rush, other perennial grasses, other perennial forbs
 Ecological site: R021XE226CA—Seep

Rock outcrop

Composition: 0 to 2 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

521—Paynepeak-Skidbrackle association***Map Unit Setting***

MLRA: 21

Landscape: Mountains

Elevation: 5,970 to 7,930

Precipitation: 30 to 50 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—55 percent

Skidbrackle very gravelly ashy sandy loam, cool, 2 to 15 percent slopes—30 percent

Fingerridge extremely gravelly ashy loam, cool, 2 to 15 percent slopes—5 percent

Pyropatti gravelly ashy loam, cool, 2 to 15 percent slopes—3 percent

Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30 percent slopes—2 percent

Boulderfan ashy loam, 4 to 15 percent slopes—1 percent

Histic Cryaquolls muck, cool, 2 to 15 percent slopes—1 percent

Lithic Xerorthents very gravelly ashy sandy loam, 4 to 30 percent slopes—1 percent

Rock outcrop, 30 to 75 percent slopes—1 percent

Vitrandic Haplocryolls extremely cobbly ashy loam, cool, 0 to 8 percent slopes—1 percent

Component Description**Paynepeak and similar soils**

Landform: Mountain slopes

Slope: 4 to 30 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Mountain big sagebrush, other shrubs, roundleaf snowberry, needlegrass, mountain brome, bluegrass, other perennial grasses, other perennial forbs

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones

Layer 1—0 to 13 inches; gravelly ashy loam

Layer 2—13 to 32 inches; very gravelly ashy loam

Layer 3—32 to 43 inches; very gravelly ashy loam

Layer 4—43 to 53 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE222CA—Loamy slope

Component Description**Skidbrackle and similar soils**

Landform: Mountain slopes

Slope: 2 to 15 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, other perennial forbs, low sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 45 percent gravel, 10 percent cobbles, 0 percent stones

Layer 1—0 to 4 inches; very gravelly ashy sandy loam

Layer 2—4 to 14 inches; extremely gravelly ashy loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE221CA—Claypan

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Fingerridge cool and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 15 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, low sagebrush, Sandberg bluegrass

Ecological site: R021XE227CA—Cobbly claypan

Pyropatti and similar soils

Composition: 0 to 3 percent

Slope: 2 to 15 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—quaking aspen
Forest understory—mountain brome, slender wheatgrass, other perennial grasses, other perennial forbs, mountain big sagebrush, quaking aspen, roundleaf snowberry

Ecological site: F021XE233CA

Gurldawg and similar soils

Composition: 0 to 2 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—lodgepole pine
Forest understory—western needlegrass, Ross' sedge, bluegrass, other perennial forbs, pinemat manzanita, lodgepole pine, western white pine, other shrubs

Ecological site: F021XE232CA

Boulderfan and similar soils

Composition: 0 to 1 percent

Slope: 4 to 15 percent

Landform: Ground moraines

Typical vegetation: Roundleaf snowberry, needlegrass, silver sagebrush, other perennial forbs, other perennial grasses

Ecological site: R021XE203CA—Moist mountain basin

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 2 to 15 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, rush, other perennial grasses, sedge, tufted hairgrass

Ecological site: R021XE226CA—Seep

Lithic Xerorthents and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, nonacid, frigid Lithic Xerorthents

Slope: 4 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Cusick's bluegrass, other perennial forbs, goldenbush, other perennial grasses, other shrubs

Ecological site: R021XE219CA—Eroded slope

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Vitrantic Haplocryolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy Vitrantic Haplocryolls

Slope: 0 to 8 percent

Landform: Mountain slopes

Typical vegetation: Tufted hairgrass, sedge, willow, Woods' rose, other perennial forbs, other perennial grasses

Ecological site: R021XE213CA—Streambank

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

522—Paypoint-Langston association**Map Unit Setting**

MLRA: 23

Landscape: Intermontane basin

Elevation: 5,560 to 5,730

Precipitation: 8 to 10 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Paypoint gravelly ashy fine sandy loam, 0 to 2 percent slopes—60 percent

Langston gravelly sandy loam, 2 to 8 percent slopes—25 percent

Longdis silty clay loam, 0 to 2 percent slopes—9 percent

Davey loamy fine sand, 0 to 4 percent slopes—5 percent

Aridic Argixerolls silt loam, 1 to 2 percent slopes—1 percent

Component Description

Paypoint and similar soils

Landform: Lagoons
Slope: 0 to 2 percent
Parent material: Alluvium derived from mixed rocks, loess and volcanic ash
Typical vegetation: Bluegrass, big sagebrush, basin wildrye, other perennial grasses, needlegrass

Typical profile:

Layer 1—0 to 5 inches; gravelly ashy fine sandy loam
Layer 2—5 to 17 inches; ashy loam
Layer 3—17 to 60 inches; stratified very gravelly sand to gravelly loamy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Available water capacity: About 5 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
Ecological site: R023XY082NV—Loamy fan 10-12 P.Z.

Component Description

Langston and similar soils

Landform: Longshore bar (relict)s
Slope: 2 to 8 percent
Parent material: Alluvium derived from mixed rocks over lacustrine sediments
Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 3 inches; gravelly sandy loam
Layer 2—3 to 11 inches; gravelly loam
Layer 3—11 to 60 inches; stratified extremely gravelly coarse sand to gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Available water capacity: About 3 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Longdis and similar soils

Composition: 0 to 9 percent
Slope: 0 to 2 percent
Landform: Lake terraces
Typical vegetation: Big sagebrush, spiny hopsage, black greasewood, other shrubs, other perennial grasses, bottlebrush squirreltail, basin wildrye, other perennial forbs
Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Davey and similar soils

Composition: 0 to 5 percent
Slope: 0 to 4 percent
Landform: Beach terraces
Typical vegetation: Spiny hopsage, Thurber's needlegrass, Indian ricegrass, needleandthread, big sagebrush, other perennial forbs
Ecological site: R023XY051NV—Sandy 8-12 P.Z.

Aridic Argixerolls and similar soils

Composition: 0 to 1 percent
Classification: Fine, smectitic, mesic Aridic Argixerolls
Slope: 1 to 2 percent
Landform: Drainageways
Typical vegetation: Other perennial forbs, basin wildrye, western wheatgrass, Nevada bluegrass, basin big sagebrush
Ecological site: R023XY005NV—Dry floodplain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section

"Engineering" and "Soil Properties" sections

523—Pickup-Bucklake association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,600 to 5,960

Precipitation: 10 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 50 to 100 days

Composition

Pickup very stony loam, 30 to 50 percent slopes—50 percent

Bucklake very cobbly loam, 30 to 50 percent slopes—35 percent

Rock outcrop—5 percent

Reywat very stony loam, 30 to 50 percent slopes—4 percent

Softscrabble very stony loam, 30 to 50 percent slopes—4 percent

Aridic Haploxerolls cobbly loam, 2 to 8 percent slopes—1 percent

Aridic Haploxerolls cobbly loam, 2 to 8 percent slopes—1 percent

Component Description

Pickup and similar soils

Landform: Plateaus

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Other perennial forbs, Thurber's needlegrass, bluebunch wheatgrass, bluegrass, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 8 inches; very stony loam

Layer 2—8 to 34 inches; very gravelly clay

Layer 3—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Bucklake and similar soils

Landform: East to west aspects on backslopes of plateaus

Slope: 30 to 50 percent, east to west aspects

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Wyoming big sagebrush, Thurber's needlegrass, antelope bitterbrush, basin wildrye, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 8 inches; very cobbly loam

Layer 2—8 to 12 inches; gravelly clay loam

Layer 3—12 to 24 inches; gravelly clay

Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
Landform: Ridges

Reywat and similar soils

Composition: 0 to 4 percent
Slope: 30 to 50 percent
Landform: Plateaus
Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, Wyoming big sagebrush, Thurber's needlegrass, basin wildrye
Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 4 percent
Slope: 30 to 50 percent
Landform: Plateaus
Typical vegetation: Bluebunch wheatgrass, other perennial forbs, needlegrass, antelope bitterbrush, basin wildrye, mountain big sagebrush
Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Aridic Haploxerolls and similar soils

Composition: 0 to 1 percent
Classification: Loamy-skeletal, mixed, superactive, mesic Aridic Haploxerolls
Slope: 2 to 8 percent
Landform: Stream terraces
Typical vegetation: Basin big sagebrush, basin wildrye, Nevada bluegrass, other perennial grasses, other perennial forbs
Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Aridic Haploxerolls and similar soils

Composition: 0 to 1 percent
Classification: Loamy-skeletal, mixed, superactive, mesic Aridic Haploxerolls
Slope: 2 to 8 percent
Landform: Plateaus
Typical vegetation: Basin big sagebrush, Nevada bluegrass, other perennial forbs, basin wildrye, western wheatgrass
Ecological site: R023XY005NV—Dry floodplain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

524—Pickup-Nosavvy-Skedaddle association

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 4,770 to 6,060
Precipitation: 8 to 12 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 80 to 120 days

Composition

Pickup very stony loam, 30 to 50 percent slopes—40 percent
Nosavvy very cobbly ashy loam, 30 to 50 percent slopes—30 percent
Skedaddle very stony loam, 30 to 50 percent slopes—20 percent
Saraph very cobbly ashy sandy loam, 30 to 50 percent slopes—3 percent
Sedsked extremely gravelly loam, 30 to 50 percent slopes—3 percent
Bucklake very stony loam, 30 to 50 percent slopes—2 percent
Cormol very cobbly ashy loam, 30 to 50 percent slopes—2 percent

Component Description

Pickup and similar soils

Landform: Plateaus
Slope: 30 to 50 percent
Parent material: Residuum and colluvium derived from volcanic rocks
Typical vegetation: Bluegrass, bluebunch wheatgrass, Thurber's needlegrass, Lahontan sagebrush, other perennial forbs

Typical profile:

Surface rock fragments: About 10 percent stones
Layer 1—0 to 8 inches; very stony loam
Layer 2—8 to 34 inches; very gravelly clay
Layer 3—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 4 inches

Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Nosavvy and similar soils

Landform: Backslopes of plateaus
 Slope: 30 to 50 percent
 Parent material: Volcanic ash and colluvium derived from volcanic rock
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, Lahontan sagebrush, other perennial forbs, other shrubs, Webber needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 6 inches; very cobbly ashy loam
 Layer 2—6 to 29 inches; gravelly ashy sandy clay loam
 Layer 3—29 to 36 inches; very cobbly ashy sandy loam
 Layer 4—36 to 63 inches; paragravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Component Description

Skedaddle and similar soils

Landform: Plateaus
 Slope: 30 to 50 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Bottlebrush squirreltail, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs, Indian ricegrass

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1—0 to 5 inches; very stony loam
 Layer 2—5 to 11 inches; very gravelly loam
 Layer 2—11 to 21 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 4 to 12 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 0.9 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Saraph and similar soils

Composition: 0 to 3 percent
 Slope: 30 to 50 percent
 Landform: Summits of rock pediments
 Typical vegetation: Other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Sedsked and similar soils

Composition: 0 to 3 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Sandberg bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage, bottlebrush squirreltail, Indian ricegrass, Thurber's needlegrass
 Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Bucklake and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent, east to west aspects

Landform: East to west aspects on plateaus
 Typical vegetation: Basin wildrye, bluebunch
 wheatgrass, Wyoming big sagebrush, antelope
 bitterbrush, Thurber's needlegrass
 Ecological site: R023XY039NV—Loamy slope 10-14
 P.Z.

Cormol and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent, east to southwest aspects
 Landform: East to southwest aspects on backslopes of
 plateaus
 Typical vegetation: Thurber's needlegrass, basin wildrye,
 bluebunch wheatgrass, Wyoming big sagebrush,
 antelope bitterbrush
 Ecological site: R023XY039NV—Loamy slope 10-14
 P.Z.

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

525—Pits, gravel

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,620 to 4,900

Composition

Pits, 0 to 2 percent slopes—100 percent

Component Description

Pits gravel

Landform: Fan piedmonts
 Slope: 0 to 2 percent

Component Properties and Qualities

Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section

"Engineering" and "Soil Properties" sections

526—Pits-Dumps complex

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 6,060 to 6,430

Composition

Pits bedrock, 5 to 90 percent slopes—50 percent
 Dumps, 2 to 90 percent slopes—45 percent
 Jaybee very cobbly sandy loam, 4 to 30 percent
 slopes—3 percent
 Rock outcrop—1 percent
 Saraph very gravelly ashy sandy loam, 4 to 30 percent
 slopes—1 percent

Component Description

Pits mine

Landform: Mountain slopes
 Slope: 5 to 90 percent

Component Properties and Qualities

Runoff: Very high
 Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Component Description

Dumps mine

Landform: Mountains

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions

Jaybee and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 30 percent
 Landform: Mountains
 Typical vegetation: Thurber's needlegrass, Lahontan
 sagebrush, other perennial forbs, other shrubs,
 Indian ricegrass, Webber needlegrass
 Ecological site: R023XY093NV—Gravelly clay 10-12
 P.Z.

Rock outcrop

Composition: 0 to 1 percent
 Landform: Ridges

Saraph and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Summits of mountains

Typical vegetation: Other perennial grasses, Thurber's needlegrass, Indian ricegrass, other perennial forbs, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

527—Playas**Map Unit Setting**

MLRA: 23

Landscape: Bolson

Elevation: 3,890 to 4,600

Composition

Playas silty clay loam, 0 to 1 percent slopes—100 percent

Component Description**Playas**

Landform: Playas

Slope: 0 to 1 percent

Component Properties and Qualities

Runoff: Negligible

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Present ponding: Frequent

Water table: Present

Interpretive Groups

Nonirrigated land capability: 8w

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

528—Pyropatti gravelly ashy loams, 2 to 30 percent slopes**Map Unit Setting**

MLRA: 21

Landscape: Mountains

Elevation: 5,630 to 8,050

Precipitation: 20 to 50 inches

Air temperature: 37 to 45 degrees Fahrenheit

Frost-free period: 30 to 60 days

Composition

Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—45 percent

Pyropatti gravelly ashy loam, cool, 2 to 30 percent slopes—45 percent

Paynepeak gravelly ashy loam, cool, 4 to 30 percent slopes—5 percent

Vitrandic Haplocryolls extremely cobbly ashy loam, cool, 0 to 8 percent slopes—2 percent

Aquandic Cryaquolls ashy loam, cool, 0 to 8 percent slopes—1 percent

Boulderfan ashy loam, 2 to 8 percent slopes—1 percent

Histic Cryaquolls muck, cool, 2 to 15 percent slopes—1 percent

Component Description**Pyropatti cool and similar soils**

Landform: Mountain slopes

Slope: 8 to 30 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Roundleaf snowberry, other perennial forbs, quaking aspen, mountain big sagebrush, mountain brome

Typical profile:

Surface rock fragments: About 25 percent gravel, 0 percent cobbles, 0 percent stones

Layer 1—0 to 9 inches; gravelly ashy loam

Layer 2—9 to 20 inches; very gravelly ashy loam

Layer 3—20 to 30 inches; very gravelly ashy loam

Layer 4—30 to 48 inches; very gravelly ashy loam

Layer 5—48 to 58 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Water table: Present
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE216CA—Aspen thicket

Component Description**Pyropatti and similar soils**

Landform: Mountain slopes
 Slope: 2 to 30 percent
 Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—other perennial grasses, roundleaf snowberry, quaking aspen, mountain big sagebrush, other perennial forbs, mountain brome, slender wheatgrass
 Site index: Quaking aspen—37 at an age base of 50 years

Typical profile:

Surface rock fragments: About 25 percent gravel, 0 percent cobbles, 0 percent stones
 Layer 1—0 to 9 inches; gravelly ashy loam
 Layer 2—9 to 20 inches; very gravelly ashy loam
 Layer 3—20 to 30 inches; very gravelly ashy loam
 Layer 4—30 to 48 inches; very gravelly ashy loam
 Layer 5—48 to 58 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Water table: Present
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: F021XE233CA

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Paynepeak and similar soils**

Composition: 0 to 5 percent
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, mountain big sagebrush, other shrubs, roundleaf snowberry, bluegrass, other perennial grasses, needlegrass, mountain brome
 Ecological site: R021XE222CA—Loamy slope

Vitrandic Haplocryolls and similar soils

Composition: 0 to 2 percent
 Classification: Ashy-skeletal, glassy Vitrandic Haplocryolls
 Slope: 0 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—black cottonwood
 Forest understory—other perennial forbs, black cottonwood, other shrubs, willow, Woods' rose, redosier dogwood, other annual forbs, other perennial grasses, Kentucky bluegrass, slender wheatgrass
 Ecological site: F021XE238CA

Aquandic Cryaquolls and similar soils

Composition: 0 to 1 percent
 Classification: Ashy, glassy Aquandic Cryaquolls
 Slope: 0 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Willow, other perennial forbs, other shrubs, other perennial grasses, carex
 Ecological site: R021XE225CA—Willow thicket

Boulderfan and similar soils

Composition: 0 to 1 percent
 Slope: 2 to 8 percent
 Landform: Ground moraines
 Typical vegetation: Roundleaf snowberry, silver sagebrush, other perennial forbs, other perennial grasses, needlegrass
 Ecological site: R021XE203CA—Moist mountain basin

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls
 Slope: 2 to 15 percent
 Landform: Mountain slopes
 Typical vegetation: Rush, tufted hairgrass, sedge, other perennial grasses, other perennial forbs
 Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

529—Raglan very fine sandy loam, alkali, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Alluvial plain remnant
 Elevation: 4,460 to 4,550
 Precipitation: 6 to 9 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Raglan very fine sandy loam, 0 to 2 percent slopes—85 percent
 Couch ashy loam, 0 to 2 percent slopes—4 percent
 Hovey silty clay loam, 0 to 2 percent slopes—4 percent
 Lolak silty clay, 0 to 2 percent slopes—4 percent
 Husa ashy loam, 0 to 2 percent slopes—3 percent

Component Description

Raglan and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Mixed alluvium and lacustrine deposits
 Typical vegetation: Bud sagebrush, bottlebrush squirreltail, shadscale, other shrubs, Indian ricegrass

Typical profile:

Layer 1—0 to 2 inches; very fine sandy loam
 Layer 2—2 to 13 inches; silt loam
 Layer 3—13 to 64 inches; stratified very fine sandy loam to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately slow)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 12 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3s
 Nonirrigated land capability: 4s
 Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Couch and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Summits of basin-floor remnants
 Typical vegetation: Lemmon's alkaligrass, other perennial grasses, Nevada bluegrass, basin wildrye, inland saltgrass
 Ecological site: R023XY002NV—Saline meadow

Hovey and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Lolak and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Basin wildrye, inland saltgrass, Nevada bluegrass, black greasewood
 Ecological site: R023XY010NV—Saline bottom

Husa and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Other perennial grasses, other perennial forbs, sedge, Nevada bluegrass
 Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

530—Raglan-Crutcher complex, 0 to 4 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Basin
Elevation: 4,500 to 4,580
Precipitation: 6 to 10 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Raglan very fine sandy loam, 0 to 4 percent slopes—45 percent
Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—40 percent
Crutcher ashy silt loam, 0 to 4 percent slopes—5 percent
Nomazu ashy very fine sandy loam, 0 to 4 percent slopes—5 percent
Isolde fine sand, 4 to 15 percent slopes—3 percent
Mazuma fine sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Raglan and similar soils

Landform: Lake terraces
Slope: 0 to 4 percent
Parent material: Mixed alluvium and lacustrine deposits
Typical vegetation: Other perennial forbs, bottlebrush squirreltail, other perennial grasses, other shrubs, bud sagebrush, shadscale, black greasewood

Typical profile:

Layer 1—0 to 3 inches; very fine sandy loam
Layer 2—3 to 14 inches; silt loam
Layer 3—14 to 60 inches; stratified very fine sandy loam to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Salinity: Saline within 40 inches
Sodicity: Sodic within 40 inches
Available water capacity: About 12 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2c
Nonirrigated land capability: 7c
Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Component Description

Crutcher and similar soils

Landform: Alluvial flats
Slope: 0 to 2 percent
Parent material: Volcanic ash and alluvium over lacustrine deposits
Typical vegetation: Black greasewood, inland saltgrass, basin wildrye, Nevada bluegrass

Typical profile:

Layer 1—0 to 5 inches; ashy very fine sandy loam
Layer 2—5 to 15 inches; ashy loam
Layer 3—15 to 22 inches; ashy silt loam
Layer 4—22 to 43 inches; stratified ashy sandy loam to ashy silty clay loam
Layer 5—43 to 74 inches; paragravelly ashy silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
Salinity: Saline within 40 inches
Sodicity: Sodic within 40 inches
Available water capacity: About 11 inches
Present flooding: Rare
Present ponding: None
Water table: Present
Natural drainage class: Somewhat poorly drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY010NV—Saline bottom

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Crutcher and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Inset fans

Typical vegetation: Other shrubs, black greasewood, basin wildrye, alkali sacaton, silver buffaloberry, inland saltgrass, shadscale, other perennial grasses

Ecological site: R024XY064NV—Sodic bottom

Nomazu moderately saline and similar soils

Composition: 0 to 5 percent

Slope: 0 to 4 percent

Landform: Basin-floor remnants

Typical vegetation: Bud sagebrush, other perennial forbs, bottlebrush squirreltail, shadscale, black greasewood, other shrubs, other perennial grasses

Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Isolde and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Dunes

Typical vegetation: Spiny hopsage, black greasewood, other shrubs, other perennial grasses, basin wildrye, needleandthread, Indian ricegrass, other perennial forbs

Ecological site: R024XY066NV—Sodic Dunes

Mazuma and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Other shrubs, bud sagebrush, shadscale, spiny hopsage, bottlebrush squirreltail, Indian ricegrass

Ecological site: R024XY065NV—Gravelly loam 5-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

531—Raglan-Isolde association

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,480 to 5,900

Precipitation: 5 to 7 inches

Air temperature: 49 to 51 degrees Fahrenheit

Frost-free period: 90 to 110 days

Composition

Raglan very fine sandy loam, 0 to 2 percent slopes—50 percent

Isolde fine sand, 2 to 15 percent slopes—35 percent

Mazuma silt loam, 0 to 2 percent slopes—6 percent

Xeric Haplocambids fine sandy loam, 0 to 2 percent slopes—5 percent

Duric Torriorthents very fine sandy loam, 0 to 2 percent slopes—4 percent

Component Description

Raglan and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Mixed alluvium and lacustrine deposits

Typical vegetation: Other perennial forbs, bottlebrush squirreltail, bud sagebrush, shadscale, other shrubs, other perennial grasses, black greasewood

Typical profile:

Layer 1—0 to 3 inches; very fine sandy loam

Layer 2—3 to 14 inches; silt loam

Layer 3—14 to 60 inches; stratified very fine sandy loam to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderately slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 12 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2c

Nonirrigated land capability: 7c

Ecological site: R024XY003NV—Sodic terrace 6-8 P.Z.

Component Description

Isolde and similar soils

Landform: Dunes

Slope: 2 to 15 percent

Parent material: Eolian material

Typical vegetation: Black greasewood, spiny hopsage, other perennial forbs, other shrubs, Indian ricegrass, needleandthread, basin wildrye, other perennial grasses

Typical profile:

Layer 1—0 to 7 inches; fine sand

Layer 2—7 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4s

Nonirrigated land capability: 7s

Ecological site: R024XY066NV—Sodic Dunes

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Mazuma and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Shadscale, bottlebrush squirreltail, other shrubs, other perennial forbs, other perennial grasses

Ecological site: R024XY067NV—Shallow Silty 5-8 P.Z.

Xeric Haplocambids and similar soils

Composition: 0 to 5 percent

Classification: Coarse-loamy, mixed, superactive, mesic Xeric Haplocambids

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Sandberg bluegrass, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Wyoming big sagebrush, spiny hopsage, other shrubs

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Duric Torriorthents and similar soils

Composition: 0 to 4 percent

Classification: Coarse-loamy, mixed, superactive, calcareous, mesic Duric Torriorthents

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Black greasewood, other shrubs, other perennial forbs, other perennial grasses, western wheatgrass, creeping wildrye, basin wildrye, basin big sagebrush

Ecological site: R024XY006NV—Dry floodplain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

532—Raglan-Mazuma association

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 4,460 to 5,280

Precipitation: 4 to 9 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 130 days

Composition

Raglan very fine sandy loam, 0 to 2 percent slopes—45 percent

Mazuma fine sandy loam, 0 to 2 percent slopes—40 percent

Isolde fine sand, 2 to 15 percent slopes—6 percent

Veta very gravelly sandy loam, 0 to 2 percent slopes—6 percent

Xeric Haplocambids fine sand, 0 to 2 percent slopes—2 percent

Skullwak silt loam, 0 to 2 percent slopes—1 percent

Component Description

Raglan and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent
 Parent material: Mixed alluvium and lacustrine deposits
 Typical vegetation: Other shrubs, black greasewood,
 bud sagebrush, other perennial forbs, shadscale,
 other perennial grasses, bottlebrush squirreltail

Typical profile:

Layer 1—0 to 3 inches; very fine sandy loam
 Layer 2—3 to 14 inches; silt loam
 Layer 3—14 to 60 inches; stratified very fine sandy loam
 to silty clay loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately
 slow)
 Salinity: Saline within 40 inches
 Sodicty: Sodict within 40 inches
 Available water capacity: About 12 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2c
 Nonirrigated land capability: 7c
 Ecological site: R024XY003NV—Sodict terrace 6-8 P.Z.

Component Description

Mazuma and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium and lacustrine deposits
 Typical vegetation: Bottlebrush squirreltail, other shrubs,
 bud sagebrush, shadscale, spiny hopsage, Indian
 ricegrass

Typical profile:

Layer 1—0 to 6 inches; fine sandy loam
 Layer 2—6 to 62 inches; stratified gravelly coarse sand
 to silt loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High,
 (Permeability class: Moderately rapid)
 Salinity: Saline within 40 inches
 Sodicty: Sodict within 40 inches
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2c
 Nonirrigated land capability: 7c
 Ecological site: R024XY065NV—Gravelly loam 5-8 P.Z.

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Isolde and similar soils

Composition: 0 to 6 percent
 Slope: 2 to 15 percent
 Landform: Dunes
 Typical vegetation: Other perennial grasses, other
 perennial forbs, spiny hopsage, black greasewood,
 other shrubs, basin wildrye, Indian ricegrass,
 needleandthread
 Ecological site: R024XY066NV—Sodict Dunes

Veta and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Other perennial grasses, other
 perennial forbs, basin big sagebrush, black
 greasewood, other shrubs, western wheatgrass,
 creeping wildrye, basin wildrye
 Ecological site: R024XY006NV—Dry floodplain

Xeric Haplocambids and similar soils

Composition: 0 to 2 percent
 Classification: Coarse-loamy, mixed, superactive, mesic
 Xeric Haplocambids
 Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Thurber's needlegrass, bottlebrush
 squirreltail, Sandberg bluegrass, Wyoming big
 sagebrush, other shrubs, spiny hopsage, Indian
 ricegrass
 Ecological site: R024XY020NV—Droughty loam 8-10
 P.Z.

Skullwak and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Nevada bluegrass, Lemmon's alkaligrass, basin wildrye, inland saltgrass, other perennial grasses

Ecological site: R023XY002NV—Saline meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

533—Redhome-Cowbell association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,420 to 6,760

Precipitation: 12 to 18 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 60 to 100 days

Composition

Redhome cobbly loam, 4 to 15 percent slopes—60 percent

Cowbell extremely cobbly ashy mucky sandy loam, 4 to 30 percent slopes—30 percent

Snag very stony ashy sandy loam, 2 to 8 percent slopes—5 percent

Harskel extremely cobbly ashy loam, 8 to 30 percent slopes—2 percent

Ninemile very cobbly loam, 4 to 15 percent slopes—2 percent

Crocان extremely stony loam, 2 to 15 percent slopes—1 percent

Component Description**Redhome and similar soils**

Landform: Shoulders of plateaus

Slope: 4 to 15 percent

Parent material: Volcanic ash and colluvium and residuum weathered from volcanic rock

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, antelope bitterbrush, mountain big sagebrush, other perennial forbs, Idaho fescue

Typical profile:

Layer 1—0 to 2 inches; cobbly loam

Layer 2—2 to 6 inches; clay loam

Layer 3—6 to 13 inches; gravelly clay loam

Layer 4—13 to 36 inches; gravelly clay loam

Layer 5—36 to 46 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 39 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Component Description**Cowbell and similar soils**

Landform: East to west aspects on backslopes of plateaus

Slope: 4 to 30 percent, east to west aspects

Parent material: Volcanic ash and colluvium derived from volcanic rocks

Typical vegetation: Bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curlleaf mountainmahogany, Idaho fescue, needlegrass

Typical profile:

Surface rock fragments: About 8 percent stones

Layer 1—0 to 3 inches; extremely cobbly ashy mucky sandy loam

Layer 2—3 to 9 inches; extremely cobbly ashy loam

Layer 3—9 to 40 inches; very cobbly ashy sandy clay loam

Layer 4—40 to 60 inches; very gravelly ashy sandy clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderate)

Available water capacity: About 10 inches

Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY026NV—Mahogany Savanna

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Snag and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Ground moraines
 Typical vegetation: Basin wildrye, needlegrass, mountain brome, Idaho fescue, bluegrass, other perennial grasses, other perennial forbs, mountain big sagebrush, other shrubs, snowberry
 Ecological site: R023XY019NV—Loamy 16+ P.Z.

Harskel and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent
 Landform: Plateaus
 Typical vegetation: Antelope bitterbrush, other perennial forbs, mountain big sagebrush, needlegrass, bluebunch wheatgrass
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Ninemile and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Plateaus
 Typical vegetation: Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other perennial forbs, low sagebrush, other shrubs
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Crocán and similar soils

Composition: 0 to 1 percent
 Slope: 2 to 15 percent
 Landform: Plateau rims
 Typical vegetation: Forest canopy—western juniper
 Forest understory—Idaho fescue, other perennial forbs, other trees, other shrubs, other perennial grasses, low sagebrush, Canby bluegrass, western needlegrass, Thurber's needlegrass, bluebunch wheatgrass

Ecological site: F023XY095NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

534—Redhome-Softscrabble association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,740 to 6,720
 Precipitation: 12 to 20 inches
 Air temperature: 42 to 45 degrees Fahrenheit
 Frost-free period: 50 to 100 days

Composition

Redhome cobbly loam, 4 to 15 percent slopes—60 percent
 Softscrabble very cobbly loam, 15 to 50 percent slopes—30 percent
 Hart Camp stony loam, moist, 2 to 8 percent slopes—3 percent
 Ninemile very stony loam, 4 to 8 percent slopes—3 percent
 Crocán extremely stony loam, 2 to 15 percent slopes—2 percent
 Hart Camp very stony loam, 4 to 15 percent slopes—2 percent

Component Description

Redhome and similar soils

Landform: Shoulders of plateaus
 Slope: 4 to 15 percent
 Parent material: Volcanic ash and colluvium and residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, basin wildrye, needlegrass

Typical profile:

Layer 1—0 to 2 inches; cobbly loam
 Layer 2—2 to 6 inches; clay loam
 Layer 3—6 to 13 inches; gravelly clay loam
 Layer 4—13 to 36 inches; gravelly clay loam
 Layer 5—36 to 46 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 39 inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Component Description

Softscrabble and similar soils

Landform: Backslopes of plateaus

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Antelope bitterbrush, needlegrass, basin wildrye, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hart Camp moist and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Plateaus

Typical vegetation: Antelope bitterbrush, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, basin wildrye, Idaho fescue, needlegrass
Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Ninemile and similar soils

Composition: 0 to 3 percent

Slope: 4 to 8 percent

Landform: Summits of plateaus

Typical vegetation: Other shrubs, Thurber's needlegrass, Idaho fescue, bluegrass, other perennial forbs, low sagebrush, bluebunch wheatgrass, other perennial grasses
Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Crocán and similar soils

Composition: 0 to 2 percent

Slope: 2 to 15 percent

Landform: Plateau rims

Typical vegetation: Forest canopy—western juniper
Forest understory—other perennial forbs, Canby bluegrass, low sagebrush, western needlegrass, Thurber's needlegrass, other perennial grasses, bluebunch wheatgrass, Idaho fescue, other trees, other shrubs
Ecological site: F023XY095NV

Hart Camp and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Plateaus

Typical vegetation: Antelope bitterbrush, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, needlegrass
Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

535—Reywat cobbly loam, 4 to 15 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,040 to 5,620
 Precipitation: 10 to 14 inches
 Air temperature: 45 to 52 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Reywat cobbly loam, 4 to 15 percent slopes—90 percent
 Devada very cobbly loam, 15 to 30 percent slopes—5 percent
 Bucklake very cobbly loam, 15 to 30 percent slopes—3 percent
 Brubeck very cobbly clay, 4 to 8 percent slopes—2 percent

Component Description

Reywat and similar soils

Landform: Plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Bluebunch wheatgrass, other perennial forbs, big sagebrush, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 10 percent cobbles, 15 percent gravel
 Layer 1—0 to 6 inches; cobbly loam
 Layer 2—6 to 18 inches; very gravelly clay loam
 Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Summits of plateaus
 Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Bucklake and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Brubeck and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 8 percent
 Landform: Plateaus
 Typical vegetation: Littleleaf horsebrush, other perennial grasses, bottlebrush squirreltail, thickspike wheatgrass, creeping wildrye, rubber rabbitbrush, other shrubs, basin big sagebrush, other perennial forbs
 Ecological site: R023XY033NV—Clayey 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

536—Reywat very stony loam, 8 to 30 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau
 Elevation: 5,790 to 6,350
 Precipitation: 10 to 14 inches
 Air temperature: 45 to 52 degrees Fahrenheit
 Frost-free period: 80 to 160 days

Composition

Reywat very stony loam, 8 to 30 percent slopes—85 percent
 Bombadil cobbly loam, 4 to 15 percent slopes—8 percent
 Fiddler very cobbly loam, 15 to 30 percent slopes—4 percent
 Hartig gravelly loam, 15 to 30 percent slopes—3 percent

Component Description

Reywat and similar soils

Landform: Backslopes of plateaus
 Slope: 8 to 30 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Thurber's needlegrass, basin wildrye, antelope bitterbrush, bluebunch wheatgrass, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent stones, 13 percent cobbles, 18 percent gravel
 Layer 1—0 to 6 inches; very stony loam
 Layer 2—6 to 18 inches; very gravelly clay loam
 Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bombadil and similar soils

Composition: 0 to 8 percent
 Slope: 4 to 15 percent
 Landform: Summits of plateaus
 Typical vegetation: Other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Fiddler and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Forest canopy—western juniper
 Forest understory—rabbitbrush, bluebunch wheatgrass, Idaho fescue, arrowleaf balsamroot, Thurber's needlegrass, bottlebrush squirreltail, antelope bitterbrush, Sandberg bluegrass, Nevada bluegrass
 Ecological site: F023XY024NV

Hartig and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent, southeast to west aspects
 Landform: Southeast to west aspects on backslopes of plateaus
 Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, needlegrass, basin wildrye
 Ecological site: R023XY016NV—South slope 12-16 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

537—Reywat-Devada association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,510 to 6,470
 Precipitation: 10 to 14 inches
 Air temperature: 44 to 52 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Reywat very stony loam, 15 to 30 percent slopes—50 percent
 Devada very cobbly loam, 4 to 15 percent slopes—35 percent

Esmod very gravelly ashy fine sandy loam, 2 to 8 percent slopes—5 percent
 Grassy can extremely gravelly sandy loam, 2 to 8 percent slopes—5 percent
 Ash tre very gravelly ashy loam, 4 to 15 percent slopes—3 percent
 Hangrock very gravelly ashy loam, 2 to 8 percent slopes—2 percent

Component Description

Reywat and similar soils

Landform: East to west aspects on backslopes of plateaus
 Slope: 15 to 30 percent, east to west aspects
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Wyoming big sagebrush, antelope bitterbrush, Thurber's needlegrass, basin wildrye, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 10 percent stones
 Layer 1—0 to 6 inches; very stony loam
 Layer 2—6 to 18 inches; very gravelly clay loam
 Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Devada and similar soils

Landform: Summits of plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1—0 to 6 inches; very cobbly loam
 Layer 2—6 to 17 inches; clay
 Layer 3—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Esmod and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Summits of fan remnants
 Typical vegetation: Bluegrass, low sagebrush, other perennial forbs, Webber needlegrass, Thurber's needlegrass
 Ecological site: R023XY059NV—Gravelly claypan 10-12 P.Z.

Grassy can and similar soils

Composition: 0 to 5 percent
 Slope: 2 to 8 percent
 Landform: Summits of plateaus
 Typical vegetation: Webber needlegrass, low sagebrush, Sandberg bluegrass, other perennial forbs, other perennial grasses
 Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Ashtre and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Backslopes of ash flows

Typical vegetation: Other perennial forbs, mountain big sagebrush, other shrubs, bluebunch wheatgrass, other perennial grasses, bluegrass, Idaho fescue, needlegrass

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Hangrock and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Fan remnants

Typical vegetation: Other perennial forbs, Indian ricegrass, Thurber's needlegrass, other perennial grasses, Wyoming big sagebrush, other shrubs

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

538—Reywat-Fernpoint association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,600 to 5,790

Precipitation: 10 to 14 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 80 to 160 days

Composition

Reywat cobbly loam, 4 to 15 percent slopes—50 percent

Fernpoint very gravelly sandy loam, 8 to 30 percent slopes—35 percent

Old Camp very stony loam, 4 to 15 percent slopes—8 percent

Langston very gravelly sandy loam, 2 to 8 percent slopes—6 percent

Orr sandy loam, 2 to 8 percent slopes—1 percent

Component Description**Reywat and similar soils**

Landform: Plateaus

Slope: 4 to 15 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, big sagebrush, other perennial forbs

Typical profile:

Surface rock fragments: About 2 percent stones, 10 percent cobbles, 15 percent gravel

Layer 1—0 to 6 inches; cobbly loam

Layer 2—6 to 18 inches; very gravelly clay loam

Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Component Description**Fernpoint and similar soils**

Landform: Beach terraces

Slope: 8 to 30 percent

Parent material: Alluvium derived from mixed rocks

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, big sagebrush

Typical profile:

Layer 1—0 to 7 inches; very gravelly sandy loam

Layer 2—7 to 17 inches; gravelly sandy clay loam

Layer 3—17 to 23 inches; gravelly sandy loam

Layer 4—23 to 60 inches; stratified extremely cobbly coarse sand to extremely gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Old Camp and similar soils

Composition: 0 to 8 percent
Slope: 4 to 15 percent
Landform: Plateaus
Typical vegetation: Indian ricegrass, Wyoming big sagebrush, other shrubs, other perennial forbs, Thurber's needlegrass, other perennial grasses
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Langston and similar soils

Composition: 0 to 6 percent
Slope: 2 to 8 percent
Landform: Longshore bar (relict)s
Typical vegetation: Indian ricegrass, Thurber's needlegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Orr and similar soils

Composition: 0 to 1 percent
Slope: 2 to 8 percent
Landform: Backslopes of alluvial fans
Typical vegetation: Big sagebrush, basin wildrye, other perennial grasses, bluegrass, needlegrass
Ecological site: R023XY082NV—Loamy fan 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

539—Reywat-Marepas association

Map Unit Setting

MLRA: 23

Landscape: Plateau
Elevation: 5,760 to 7,620
Precipitation: 10 to 18 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 60 to 100 days

Composition

Reywat cobbly loam, 4 to 15 percent slopes—60 percent
Marepas very gravelly mucky ashy sandy loam, 4 to 30 percent slopes—30 percent
Devada very cobbly loam, 8 to 30 percent slopes—5 percent
Softscrabble very cobbly loam, 15 to 50 percent slopes—3 percent
Hart Camp stony loam, moist, 4 to 15 percent slopes—2 percent

Component Description

Reywat and similar soils

Landform: North facing plateaus
Slope: 4 to 15 percent, north aspect
Parent material: Residuum and colluvium derived from volcanic rocks
Typical vegetation: Other perennial forbs, big sagebrush, Thurber's needlegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 2 percent stones, 10 percent cobbles, 15 percent gravel
Layer 1—0 to 6 inches; cobbly loam
Layer 2—6 to 18 inches; very gravelly clay loam
Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Component Description

Marepas and similar soils

Landform: West to east aspects on backslopes of plateaus

Slope: 4 to 30 percent, west to east aspects

Parent material: Volcanic ash, colluvium and residuum derived from volcanic rocks

Typical vegetation: Forest canopy—Utah juniper Forest understory—other shrubs, Utah juniper, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, other perennial grasses, Thurber's needlegrass

Site index: Utah juniper—40 at an age base of 0 years

Typical profile:

Surface rock fragments: About 15 percent subrounded cobbles, 35 percent subrounded gravel

Oi—0 to 0.5 inches; gravelly slightly decomposed plant material

Layer 1—0.5 to 5 inches; very gravelly mucky ashy sandy loam

Layer 2—5 to 13 inches; very cobbly ashy sandy clay loam

Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 1.0 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: F023XY036NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Summits of plateaus

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Backslopes of plateaus

Typical vegetation: Other perennial forbs, basin wildrye, mountain big sagebrush, antelope bitterbrush, bluebunch wheatgrass, needlegrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Hart Camp moist and similar soils

Composition: 0 to 2 percent

Slope: 4 to 15 percent

Landform: Plateaus

Typical vegetation: Mountain big sagebrush, other perennial forbs, antelope bitterbrush, bluebunch wheatgrass, needlegrass, Idaho fescue, basin wildrye

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

540—Reywat-Rock outcrop-Marepas association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,980 to 7,620

Precipitation: 10 to 14 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 60 to 120 days

Composition

Reywat very stony loam, 30 to 50 percent slopes—50 percent

Rock outcrop—25 percent

Marepas very gravelly mucky ashy sandy loam, 30 to 50 percent slopes—15 percent

Cormol very cobbly ashy loam, 30 to 50 percent slopes—5 percent

Softscrabble cobbly loam, 30 to 50 percent slopes—3 percent

Dosie very gravelly loam, 15 to 50 percent slopes—2 percent

Component Description

Reywat and similar soils

Landform: East to west aspects on backslopes of plateaus

Slope: 30 to 50 percent, east to west aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 18 inches; very gravelly clay loam

Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description

Rock outcrop

Landform: Plateaus

Component Description

Marepas and similar soils

Landform: West to east aspects on backslopes of plateaus

Slope: 30 to 50 percent, west to east aspects

Parent material: Volcanic ash, colluvium and residuum derived from volcanic rocks

Typical vegetation: Forest canopy—Utah juniper Forest understory—other shrubs, Utah juniper, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass, other perennial grasses

Site index: Utah juniper—40 at an age base of 0 years

Typical profile:

Surface rock fragments: About 35 percent subrounded gravel, 15 percent subrounded cobbles.

Oi—0 to 0.5 inches; gravelly slightly decomposed plant material

Layer 1—0.5 to 5 inches; very gravelly mucky ashy sandy loam

Layer 2—5 to 13 inches; very cobbly ashy sandy clay loam

Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 1.0 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: F023XY036NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cormol and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent, east to southwest aspects

Landform: East to southwest aspects on backslopes of plateaus

Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 3 percent
Slope: 30 to 50 percent
Landform: Backslopes of concave plateaus
Typical vegetation: Mountain big sagebrush, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, basin wildrye, needlegrass
Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Dosie and similar soils

Composition: 0 to 2 percent
Slope: 15 to 50 percent
Landform: Backslopes of plateaus
Typical vegetation: Mountain big sagebrush, needlegrass, basin wildrye, bluebunch wheatgrass
Ecological site: R023XY016NV—South slope 12-16 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

541—Rock outcrop-Rubble land complex, 30 to 70 percent slopes

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 4,600 to 6,800
Precipitation: 9 to 16 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 60 to 100 days

Composition

Rubble land, 30 to 70 percent slopes—45 percent
Rock outcrop—40 percent
Fivesprings very stony loam, 30 to 60 percent slopes—4 percent
Fiddler very stony loam, 30 to 50 percent slopes—4 percent
Longcreek very stony loam, 30 to 50 percent slopes—4 percent
Fredonyer very stony loam, 30 to 50 percent slopes—3 percent

Component Description

Rubble land

Landform: Escarpments

Slope: 30 to 70 percent

Component Properties and Qualities

Runoff: Low
Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8

Component Description

Rock outcrop

Landform: Plateaus

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fivesprings and similar soils

Composition: 0 to 4 percent
Slope: 30 to 60 percent, northwest to north aspects
Landform: Northwest to north aspects on backslopes of mountains
Typical vegetation: Mountain big sagebrush, basin wildrye, antelope bitterbrush, Thurber's needlegrass, bluebunch wheatgrass
Ecological site: R023XF082CA—Stony loam 9-12"

Fiddler and similar soils

Composition: 0 to 4 percent
Slope: 30 to 50 percent, south aspect
Landform: South facing backslopes of mountains
Typical vegetation: Forest canopy—western juniper
Forest understory—Thurber's needlegrass, mountain big sagebrush, Idaho fescue, arrowleaf balsamroot, antelope bitterbrush, rabbitbrush, Nevada bluegrass, bottlebrush squirreltail, Sandberg bluegrass, bluebunch wheatgrass
Ecological site: R021XE174CA—Stony loam 12-16"

Longcreek and similar soils

Composition: 0 to 4 percent
Slope: 30 to 50 percent, north aspect
Landform: North facing backslopes of mountains
Typical vegetation: Mountain big sagebrush, antelope bitterbrush, Thurber's needlegrass, bluebunch wheatgrass, basin wildrye
Ecological site: R023XF082CA—Stony loam 9-12"

Fredonyer and similar soils

Composition: 0 to 3 percent
Slope: 30 to 50 percent, south aspect
Landform: South facing backslopes of mountains

Typical vegetation: Idaho fescue, curl-leaf mountain mahogany, mountain big sagebrush
 Ecological site: R021XE178CA—Very stony loam 12-16"

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

542—Rodock gravelly sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,720 to 5,050
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 48 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Rodock gravelly sandy loam, 0 to 2 percent slopes—90 percent
 Davey loamy fine sand, 2 to 4 percent slopes—4 percent
 Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—3 percent
 Gorzell very gravelly sandy loam, 2 to 4 percent slopes—2 percent
 Riverwash gravelly coarse sand, 0 to 2 percent slopes—1 percent

Component Description

Rodock and similar soils

Landform: Inset fans
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks, loess and volcanic ash
 Typical vegetation: Basin wildrye, other perennial forbs, western wheatgrass, Nevada bluegrass, basin big sagebrush

Typical profile:

Layer 1—0 to 2 inches; gravelly sandy loam
 Layer 2—2 to 20 inches; gravelly loam
 Layer 3—20 to 27 inches; gravelly fine sandy loam
 Layer 4—27 to 60 inches; stratified extremely gravelly coarse sand to very gravelly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 5 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3s
 Nonirrigated land capability: 7s
 Ecological site: R023XY005NV—Dry floodplain

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Davey and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 4 percent
 Landform: Sand sheets
 Typical vegetation: Other perennial forbs, needleandthread, big sagebrush, spiny hopsage, Thurber's needlegrass, Indian ricegrass
 Ecological site: R023XY051NV—Sandy 8-12 P.Z.

Nevadash and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 4 percent
 Landform: Fan aprons
 Typical vegetation: Spiny hopsage, other shrubs, basin wildrye, big sagebrush, thickspike wheatgrass, other perennial forbs
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Gorzell and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 4 percent
 Landform: Beach terraces
 Typical vegetation: Other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush, other shrubs
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Riverwash

Composition: 0 to 1 percent
 Slope: 0 to 2 percent

Landform: Channels

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

543—Rubble land-Dosie-Menbo association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,230 to 6,480

Precipitation: 8 to 50 inches

Air temperature: 43 to 54 degrees Fahrenheit

Frost-free period: 50 to 180 days

Composition

Rubble land, 15 to 50 percent slopes—50 percent
Dosie very gravelly loam, 30 to 50 percent slopes—20 percent

Menbo cobbly loam, 30 to 50 percent slopes—20 percent

Devada very stony loam, 8 to 30 percent slopes—3 percent

Ninemile very stony loam, 8 to 30 percent slopes—3 percent

Cormol very cobbly ashy loam, 15 to 50 percent slopes—2 percent

Softscrabble very stony loam, 15 to 30 percent slopes—2 percent

Component Description

Rubble land

Landform: Plateaus

Slope: 15 to 50 percent

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Component Description

Dosie and similar soils

Landform: Backslopes of plateaus

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye, needlegrass

Typical profile:

Surface rock fragments: About 3 percent stones

Layer 1—0 to 5 inches; very gravelly loam

Layer 2—5 to 41 inches; very gravelly clay

Layer 3—41 to 51 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Menbo and similar soils

Landform: Plateaus

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from tuffaceous rocks

Typical vegetation: Needlegrass, Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 6 inches; cobbly loam

Layer 2—6 to 26 inches; very cobbly clay

Layer 3—26 to 36 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches
 Present flooding: None

Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Low sagebrush, other perennial forbs, bluegrass, Thurber's needlegrass, bluebunch wheatgrass
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Ninemile and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 30 percent
 Landform: Summits of plateaus
 Typical vegetation: Other shrubs, other perennial forbs, Thurber's needlegrass, other perennial grasses, Idaho fescue, bluebunch wheatgrass, bluegrass, low sagebrush
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Cormol and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 50 percent, east to southwest aspects
 Landform: East to southwest aspects on backslopes of plateaus
 Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Softscrabble and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

544—Rubble land-Home Camp complex, 30 to 75 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 4,920 to 7,730
 Precipitation: 12 to 16 inches
 Air temperature: 41 to 44 degrees Fahrenheit
 Frost-free period: 30 to 70 days

Composition

Rubble land, 30 to 75 percent slopes—65 percent
 Home Camp stony loam, 30 to 50 percent slopes—25 percent
 Cavin very gravelly ashy sandy loam, 30 to 50 percent slopes—3 percent
 Brownsbowl gravelly ashy sandy loam, 30 to 50 percent slopes—2 percent
 Cowbell extremely cobbly ashy mucky sandy loam, 15 to 30 percent slopes—2 percent
 Snag very stony ashy sandy loam, 30 to 50 percent slopes—2 percent
 Nowack very gravelly mucky ashy loam, cool, 30 to 50 percent slopes—1 percent

Component Description

Rubble land

Landform: Backslopes of escarpments
 Slope: 30 to 75 percent

Component Properties and Qualities

Runoff: Low
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Present ponding: None

Interpretive Groups

Nonirrigated land capability: 8s

Component Description**Home Camp and similar soils**

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Bluebunch wheatgrass, mountain big sagebrush, basin wildrye, needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 5 percent stones

Layer 1—0 to 3 inches; stony loam

Layer 2—3 to 9 inches; very gravelly loam

Layer 3—9 to 17 inches; very gravelly sandy clay loam

Layer 4—17 to 28 inches; very gravelly clay

Layer 5—28 to 38 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY018NV—Stony South slope 12-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Cavin and similar soils**

Composition: 0 to 3 percent

Slope: 30 to 50 percent, east to west aspects

Landform: East to west aspects on shoulders of mountains

Typical vegetation: Mountain big sagebrush, other perennial forbs, Cusick's bluegrass, Idaho fescue, bluebunch wheatgrass, needlegrass

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Brownsbowl and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent, northeast to northwest aspects

Landform: Northeast to northwest aspects on mountains

Typical vegetation: Other perennial forbs, other shrubs, Idaho fescue, mountain big sagebrush, mountain brome, needlegrass, melic

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Cowbell and similar soils

Composition: 0 to 2 percent

Slope: 15 to 30 percent, east to west aspects

Landform: East to west aspects on backslopes of mountains

Typical vegetation: Idaho fescue, bluebunch wheatgrass, Cusick's bluegrass, mountain big sagebrush, curlleaf mountainmahogany, needlegrass

Ecological site: R023XY026NV—Mahogany Savanna

Snag and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Ground moraines

Typical vegetation: Other shrubs, snowberry, mountain big sagebrush, other perennial forbs, other perennial grasses, bluegrass, basin wildrye, Idaho fescue, mountain brome, needlegrass

Ecological site: R023XY019NV—Loamy 16+ P.Z.

Nowack and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—white fir, roundleaf snowberry, other shrubs, other perennial forbs, currant, other perennial grasses, Ross' sedge, mountain brome

Ecological site: F021XE231CA

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

545—Rubble land-Paynepeak complex, 15 to 50 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 6,530 to 7,850
 Precipitation: 30 to 50 inches
 Air temperature: 39 to 43 degrees Fahrenheit
 Frost-free period: 30 to 60 days

Composition

Rubble land, 30 to 50 percent slopes—55 percent
 Paynepeak gravelly ashy loam, cool, 15 to 50 percent slopes—30 percent
 Rock outcrop, 30 to 75 percent slopes—5 percent
 Fendersflat gravelly ashy loam, 15 to 50 percent slopes—3 percent
 Pyropatti gravelly ashy loam, cool, 15 to 50 percent slopes—3 percent
 Gurlidawg very gravelly ashy sandy loam, cool, 15 to 50 percent slopes—2 percent
 Lotawaca very gravelly ashy sandy loam, cool, 15 to 50 percent slopes—2 percent

Component Description

Rubble land

Landform: Backslopes of mountains
 Slope: 30 to 50 percent

Component Description

Paynepeak and similar soils

Landform: Mountain slopes
 Slope: 15 to 50 percent
 Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Mountain big sagebrush, roundleaf snowberry, other shrubs, other perennial forbs, other perennial grasses, bluegrass, mountain brome, needlegrass

Typical profile:

Surface rock fragments: About 30 percent gravel, 10 percent cobbles, 2 percent stones
 Layer 1—0 to 13 inches; gravelly ashy loam
 Layer 2—13 to 32 inches; very gravelly ashy loam
 Layer 3—32 to 43 inches; very gravelly ashy loam
 Layer 4—43 to 53 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE222CA—Loamy slope

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of escarpments

Fendersflat and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Needlegrass, mountain brome, bluebunch wheatgrass, Sandberg bluegrass, other perennial forbs, mountain big sagebrush, other shrubs, roundleaf snowberry
 Ecological site: R021XE206CA—Mountain shoulders

Pyropatti and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Mountain brome, other perennial forbs, mountain big sagebrush, quaking aspen, roundleaf snowberry
 Ecological site: R021XE216CA—Aspen thicket

Gurlidawg and similar soils

Composition: 0 to 2 percent
 Slope: 15 to 50 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—lodgepole pine
 Forest understory—western needlegrass, Ross' sedge, bluegrass, other perennial forbs, pinemat

manzanita, lodgepole pine, western white pine, other shrubs

Ecological site: F021XE232CA

Lotawaca and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—white fir Forest understory—other annual forbs, western needlegrass, Ross' sedge, Wheeler bluegrass, other perennial forbs, white fir, other shrubs, western white pine, sticky currant

Ecological site: F021XE239CA

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

546—Runyon-Hapgood association

Map Unit Setting

MLRA: 21

Landscape: Mountains

Elevation: 5,620 to 7,010

Precipitation: 10 to 16 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 50 to 90 days

Composition

Runyon gravelly loam, 8 to 15 percent slopes—50 percent

Hapgood gravelly loam, 5 to 30 percent slopes—40 percent

Home Camp stony loam, 5 to 30 percent slopes—5 percent

Ninemile very stony loam, 5 to 30 percent slopes—5 percent

Component Description

Runyon and similar soils

Landform: Mountains

Slope: 8 to 15 percent

Parent material: Volcanic ash and/or colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Antelope bitterbrush, mountain big sagebrush, other perennial forbs, Idaho fescue, Thurber's needlegrass, Canby bluegrass

Typical profile:

Surface rock fragments: About 6 percent stones, 6 percent cobbles, 18 percent gravel, 5 percent fine gravel

Layer 1—0 to 2 inches; gravelly loam

Layer 2—2 to 5 inches; loam

Layer 3—5 to 25 inches; gravelly loam

Layer 4—25 to 37 inches; cobbly loam

Layer 5—37 to 72 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R021XE044CA—Cool loam 12-16"

Component Description

Hapgood and similar soils

Landform: North facing backslopes of mountains

Slope: 5 to 30 percent, north aspect

Parent material: Colluvium derived from volcanic rock and/or residuum weathered from volcanic rock

Typical vegetation: Mountain big sagebrush, other perennial forbs, Canby bluegrass, antelope bitterbrush, Idaho fescue, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent cobbles, 5 percent stones

Layer 1—0 to 4 inches; gravelly loam

Layer 2—4 to 41 inches; very gravelly loam

Layer 3—41 to 51 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE044CA—Cool loam 12-16"

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Home Camp and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 30 percent, north aspect
 Landform: North facing backslopes of mountains
 Typical vegetation: Antelope bitterbrush, needlegrass, bluebunch wheatgrass, mountain big sagebrush, Idaho fescue
 Ecological site: R021XE174CA—Stony loam 12-16"

Ninemile and similar soils

Composition: 0 to 5 percent
 Slope: 5 to 30 percent
 Landform: Backslopes of mountains
 Typical vegetation: Idaho fescue, bluegrass, antelope bitterbrush, low sagebrush, Thurber's needlegrass, bluebunch wheatgrass, balsamroot, bottlebrush squirreltail
 Ecological site: R021XE173CA—Shallow stony loam 12-16"

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

547—Saltmount silty clay loams, 0 to 30 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,450 to 4,580
 Precipitation: 6 to 8 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Saltmount silty clay loam, 0 to 8 percent slopes—60 percent
 Saltmount silty clay loam, 8 to 30 percent slopes—40 percent

Component Description

Saltmount and similar soils

Landform: Dunes
 Slope: 0 to 8 percent
 Parent material: Eolian deposits over lacustrine deposits derived from volcanic rock
 Typical vegetation: Basin wildrye, inland saltgrass, other shrubs, black greasewood

Typical profile:

Layer 1—0 to 2 inches; silty clay loam
 Layer 2—2 to 20 inches; clay
 Layer 3—20 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 1.4 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c
 Ecological site: R024XY011NV—Sodic flat 6-8 P.Z.

Component Description

Saltmount and similar soils

Landform: Dunes
 Slope: 8 to 30 percent
 Parent material: Eolian deposits over lacustrine deposits derived from volcanic rock
 Typical vegetation: Basin wildrye, black greasewood, inland saltgrass, other shrubs

Typical profile:

Layer 1—0 to 2 inches; silty clay loam
 Layer 2—2 to 20 inches; clay
 Layer 3—20 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Saturated hydraulic conductivity class (root zone):

Moderately high, (Permeability class: Moderate)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 1.4 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R024XY011NV—Sodic flat 6-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

548—Saraph-Ashcamp-Bitner association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,620 to 5,960

Precipitation: 8 to 14 inches

Air temperature: 44 to 50 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Saraph very gravelly ashy sandy loam, 4 to 15 percent slopes—50 percent

Ashcamp ashy sandy loam, 2 to 15 percent slopes—20 percent

Bitner gravelly ashy sandy loam, 4 to 30 percent slopes—15 percent

Ceejay stony loam, 4 to 30 percent slopes—5 percent

Chalco very gravelly loam, 4 to 30 percent slopes—5 percent

Hangrock very gravelly ashy loam, 2 to 15 percent slopes—3 percent

Leviathan very gravelly loam, 2 to 8 percent slopes—2 percent

Component Description

Saraph and similar soils

Landform: Summits of rock pediments

Slope: 4 to 15 percent

Parent material: Residuum weathered from tuff

Typical vegetation: Wyoming big sagebrush, other perennial grasses, other perennial forbs, other shrubs, Thurber's needlegrass, Indian ricegrass

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam

Layer 2—4 to 9 inches; ashy sandy loam

Layer 3—9 to 16 inches; ashy clay loam

Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Ashcamp and similar soils

Landform: Shoulders of plateaus

Slope: 2 to 15 percent

Parent material: Colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Other perennial forbs, big sagebrush, Thurber's needlegrass, bluebunch wheatgrass

Typical profile:

Layer 1—0 to 3 inches; ashy sandy loam

Layer 2—3 to 7 inches; ashy sandy loam

Layer 3—7 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.1 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Component Description

Bitner and similar soils

Landform: Shoulders of plateaus
 Slope: 4 to 30 percent
 Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Idaho fescue, Thurber's needlegrass, antelope bitterbrush, big sagebrush, bluebunch wheatgrass

Typical profile:

Layer 1—0 to 7 inches; gravelly ashy sandy loam
 Layer 2—7 to 13 inches; gravelly ashy sandy loam
 Layer 3—13 to 27 inches; gravelly ashy sandy loam
 Layer 4—27 to 37 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ceejay and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 30 percent

Landform: Backslopes of plateaus
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, Webber needlegrass, other shrubs, other perennial forbs, Lahontan sagebrush
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Chalco and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 30 percent
 Landform: Rock pediments
 Typical vegetation: Webber needlegrass, Thurber's needlegrass, Indian ricegrass, other perennial forbs, Lahontan sagebrush, other shrubs
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Hangrock and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 15 percent
 Landform: Fan remnants
 Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, Indian ricegrass, Thurber's needlegrass, other perennial grasses
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Leviathan and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Bluebunch wheatgrass, other perennial forbs, big sagebrush, Thurber's needlegrass
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

549—Saraf-Bombadil-Macnot association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 4,950 to 6,160
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Bombadil very gravelly sandy loam, 4 to 15 percent slopes—50 percent
 Saraph very gravelly ashy sandy loam, 4 to 15 percent slopes—25 percent
 Macnot gravelly ashy sandy loam, 2 to 4 percent slopes—15 percent
 Old Camp very stony sandy loam, 8 to 15 percent slopes—4 percent
 Devada very stony loam, 4 to 15 percent slopes—3 percent
 Hangrock very gravelly ashy loam, 2 to 8 percent slopes—2 percent
 Ceejay stony loam, 4 to 15 percent slopes—1 percent

Component Description

Bombadil and similar soils

Landform: Plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 6 percent stones, 13 percent cobbles, 13 percent gravel, 2 percent fine gravel
 Layer 1—0 to 2 inches; very gravelly sandy loam
 Layer 2—2 to 6 inches; gravelly loam
 Layer 3—6 to 10 inches; gravelly clay loam
 Layer 4—10 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Saraph and similar soils

Landform: Summits of plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam
 Layer 2—4 to 9 inches; ashy sandy loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Macnot nearly level and similar soils

Landform: Inset fans
 Slope: 2 to 4 percent
 Parent material: Volcanic ash and alluvium derived from volcanic rocks
 Typical vegetation: Big sagebrush, other perennial forbs, other shrubs, spiny hopsage, basin wildrye, thickspike wheatgrass

Typical profile:

Layer 1—0 to 1 inches; gravelly ashy sandy loam
 Layer 2—1 to 6 inches; gravelly ashy sandy loam
 Layer 3—6 to 16 inches; very gravelly ashy sandy loam
 Layer 4—16 to 24 inches; very gravelly ashy loamy sand
 Layer 5—24 to 60 inches; stratified extremely gravelly ashy coarse sand to very gravelly ashy sand

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High,
 (Permeability class: Moderately rapid)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Old Camp and similar soils**

Composition: 0 to 4 percent
 Slope: 8 to 15 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Devada and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Plateaus
 Typical vegetation: Bluebunch wheatgrass, low sagebrush, other perennial forbs, bluegrass, Thurber's needlegrass
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Hangrock and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Fan remnants
 Typical vegetation: Other perennial forbs, Indian ricegrass, other shrubs, Thurber's needlegrass, other perennial grasses, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Ceejay and similar soils

Composition: 0 to 1 percent
 Slope: 4 to 15 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, Webber needlegrass, other shrubs, other perennial forbs, Lahontan sagebrush

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

550—Saraph-Chalco association**Map Unit Setting**

MLRA: 23
 Landscape: Hills
 Elevation: 4,880 to 5,820
 Precipitation: 8 to 14 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 60 to 120 days

Composition

Saraph very cobbly ashy sandy loam, 4 to 15 percent slopes—50 percent
 Chalco very cobbly loam, 4 to 30 percent slopes—40 percent
 Cormol very cobbly ashy loam, 30 to 50 percent slopes—5 percent
 Brubeck very cobbly clay, 2 to 8 percent slopes—2 percent
 Rock outcrop—2 percent
 Pickup very stony loam, 30 to 50 percent slopes—1 percent

Component Description**Saraph and similar soils**

Landform: Summits of hills
 Slope: 4 to 15 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 4 inches; very cobbly ashy sandy loam
 Layer 2—4 to 9 inches; ashy sandy loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description**Chalco and similar soils**

Landform: Hills

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from lake-laid tuff

Typical vegetation: Other shrubs, Thurber's needlegrass, black sagebrush, other perennial forbs, other perennial grasses, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 11 percent stones, 11 percent cobbles, 18 percent gravel, 5 percent fine gravel

Layer 1—0 to 3 inches; very cobbly loam

Layer 2—3 to 15 inches; clay

Layer 3—15 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY052NV—Shallow calcareous loam 8-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Cormol and similar soils**

Composition: 0 to 5 percent

Slope: 30 to 50 percent, east to southwest aspects

Landform: East to southwest aspects on backslopes of hills

Typical vegetation: Antelope bitterbrush, Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Brubeck and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Hills

Typical vegetation: Littleleaf horsebrush, rubber rabbitbrush, other shrubs, basin big sagebrush, other perennial grasses, creeping wildrye, other perennial forbs, thickspike wheatgrass, bottlebrush squirreltail

Ecological site: R023XY033NV—Clayey 10-14 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Landform: Ridges

Pickup and similar soils

Composition: 0 to 1 percent

Slope: 30 to 50 percent

Landform: Hills

Typical vegetation: Lahontan sagebrush, Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

551—Saraph-Chalco-Bombadil association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,420 to 6,670

Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 60 to 120 days

Composition

Saraph very gravelly ashy sandy loam, 4 to 15 percent slopes—40 percent
 Chalco very gravelly loam, 8 to 15 percent slopes—25 percent
 Bombadil very gravelly sandy loam, 4 to 15 percent slopes—20 percent
 Fulstone very gravelly sandy loam, 2 to 8 percent slopes—6 percent
 Ceejay stony loam, 4 to 15 percent slopes—5 percent
 Bitner gravelly ashy sandy loam, 8 to 30 percent slopes—4 percent

Component Description

Saraph and similar soils

Landform: Plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Thurber's needlegrass

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam
 Layer 2—4 to 9 inches; ashy sandy loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Chalco and similar soils

Landform: Rock pediments
 Slope: 8 to 15 percent
 Parent material: Residuum and colluvium derived from lake-laid tuff
 Typical vegetation: Lahontan sagebrush, other perennial forbs, other shrubs, Webber needlegrass, Indian ricegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam
 Layer 2—3 to 15 inches; clay
 Layer 3—15 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Component Description

Bombadil and similar soils

Landform: Plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Indian ricegrass, Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 6 percent stones, 13 percent cobbles, 13 percent gravel, 2 percent fine gravel
 Layer 1—0 to 2 inches; very gravelly sandy loam
 Layer 2—2 to 6 inches; gravelly loam
 Layer 3—6 to 10 inches; gravelly clay loam

Layer 4—10 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Fulstone and similar soils

Composition: 0 to 6 percent

Slope: 2 to 8 percent

Landform: Summits of fan remnants

Typical vegetation: Lahontan sagebrush, other perennial forbs, other shrubs, Webber needlegrass, Thurber's needlegrass, Indian ricegrass

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Ceejay and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Lahontan sagebrush, other shrubs, Webber needlegrass, Thurber's needlegrass, Indian ricegrass, other perennial forbs

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Bitner and similar soils

Composition: 0 to 4 percent

Slope: 8 to 30 percent

Landform: Shoulders of plateaus

Typical vegetation: Thurber's needlegrass, Idaho fescue, antelope bitterbrush, big sagebrush, bluebunch wheatgrass

Ecological site: R023XY096NV—Ashy sandy loam 10-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

552—Saraph-Hangrock-Tuffo association

Map Unit Setting

MLRA: 23

Landscape: Hills

Elevation: 5,280 to 5,770

Precipitation: 9 to 11 inches

Air temperature: 44 to 47 degrees Fahrenheit

Frost-free period: 80 to 110 days

Composition

Saraph very gravelly ashy sandy loam, 4 to 30 percent slopes—35 percent

Hangrock very gravelly ashy loam, 2 to 15 percent slopes—30 percent

Tuffo very gravelly ashy sandy loam, 15 to 50 percent slopes—20 percent

Vitrixerandic Haplargids ashy sandy loam, 0 to 4 percent slopes—7 percent

Fulstone very gravelly sandy loam, 2 to 15 percent slopes—3 percent

Xeric Torriorthents gravelly clay loam, 8 to 30 percent slopes—3 percent

Badland variable, 50 to 75 percent slopes—2 percent

Component Description

Saraph and similar soils

Landform: Hills

Slope: 4 to 30 percent

Parent material: Residuum derived from tuffaceous rocks

Typical vegetation: Other perennial forbs, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other shrubs, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam

Layer 2—4 to 9 inches; ashy sandy clay loam

Layer 3—9 to 16 inches; ashy clay loam

Layer 4—16 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Hangrock and similar soils

Landform: Fan remnants
 Slope: 2 to 15 percent
 Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Wyoming big sagebrush, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy loam
 Layer 2—4 to 17 inches; gravelly ashy clay loam
 Layer 3—17 to 60 inches; cemented material

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Tuffo and similar soils

Landform: Ash flows
 Slope: 15 to 50 percent
 Parent material: Residuum derived from tuffaceous rocks
 Typical vegetation: Bottlebrush squirreltail, Indian ricegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
 Layer 2—1 to 8 inches; gravelly ashy sandy loam
 Layer 3—8 to 30 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 4 to 14 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 1.1 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the “Classification of the Soils” section.

Contrasting Inclusions

Vitrixerandic Haplargids and similar soils

Composition: 0 to 7 percent
 Classification: Ashy, glassy, mesic Vitrixerandic Haplargids
 Slope: 0 to 4 percent
 Landform: Fan aprons, lake plains
 Typical vegetation: Big sagebrush, needlegrass, bluegrass, other perennial grasses, basin wildrye
 Ecological site: R023XY082NV—Loamy fan 10-12 P.Z.

Fulstone and similar soils

Composition: 0 to 3 percent
 Slope: 2 to 15 percent

Landform: Summits of fan remnants
 Typical vegetation: Lahontan sagebrush, Webber
 needlegrass, Thurber's needlegrass, Indian
 ricegrass, other shrubs, other perennial forbs
 Ecological site: R023XY093NV—Gravelly clay 10-12
 P.Z.

Xeric Torriorthents and similar soils

Composition: 0 to 3 percent
 Classification: Clayey, smectitic, calcareous, mesic,
 shallow Xeric Torriorthents
 Slope: 8 to 30 percent
 Landform: Stream terraces
 Typical vegetation: Other shrubs, ephedra, Indian
 ricegrass, Thurber's needlegrass, bottlebrush
 squirreltail, Lahontan sagebrush, other perennial
 forbs, other perennial grasses, Sandberg bluegrass,
 spiny hopsage
 Ecological site: R023XY047NV—Gravelly clay 8-10 P.Z.

Badland

Composition: 0 to 2 percent
 Slope: 50 to 75 percent
 Landform: Pediments

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

553—Saraph-Macnot-Tuffo association

Map Unit Setting

MLRA: 23
 Landscape: Hills
 Elevation: 4,770 to 6,280
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 100 to 120 days

Composition

Saraph very gravelly ashy sandy loam, 4 to 30 percent
 slopes—50 percent
 Macnot gravelly ashy sandy loam, 0 to 2 percent
 slopes—25 percent
 Tuffo very gravelly ashy sandy loam, 15 to 50 percent
 slopes—15 percent
 Skedaddle very gravelly sandy loam, 4 to 30 percent
 slopes—6 percent

Old Camp very stony loam, 8 to 30 percent slopes—4
 percent

Component Description

Saraph and similar soils

Landform: Hills
 Slope: 4 to 30 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Indian ricegrass, other perennial
 grasses, other perennial forbs, other shrubs,
 Wyoming big sagebrush, Thurber's needlegrass

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam
 Layer 2—4 to 9 inches; ashy sandy loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20
 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately
 slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Macnot nearly level and similar soils

Landform: Inset fans
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and alluvium derived from
 volcanic rocks
 Typical vegetation: Thickspike wheatgrass, big
 sagebrush, other perennial forbs, other shrubs, spiny
 hopsage, basin wildrye

Typical profile:

Layer 1—0 to 1 inches; gravelly ashy sandy loam
 Layer 2—1 to 6 inches; gravelly ashy sandy loam
 Layer 3—6 to 16 inches; very gravelly ashy sandy loam
 Layer 4—16 to 24 inches; very gravelly ashy loamy sand
 Layer 5—24 to 60 inches; stratified extremely gravelly
 ashy coarse sand to very gravelly ashy sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
Available water capacity: About 3 inches
Present flooding: None
Present ponding: None
Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Component Description

Tuffo and similar soils

Landform: Backslopes of ash flows
Slope: 15 to 50 percent
Parent material: Residuum derived from tuffaceous rocks
Typical vegetation: Bottlebrush squirreltail, other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs, Indian ricegrass

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
Layer 2—1 to 8 inches; gravelly ashy sandy loam
Layer 3—8 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (paralithic): 4 to 14 inches
Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
Available water capacity: About 1.1 inches
Present flooding: None
Present ponding: None
Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Skedaddle and similar soils

Composition: 0 to 6 percent
Slope: 4 to 30 percent
Landform: Backslopes of hills
Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial grasses, Wyoming big sagebrush, other shrubs, other perennial forbs
Ecological site: R023XY088NV—Chalky knoll

Old Camp and similar soils

Composition: 0 to 4 percent
Slope: 8 to 30 percent
Landform: Hills
Typical vegetation: Indian ricegrass, other perennial grasses, Thurber's needlegrass, other shrubs, Wyoming big sagebrush, other perennial forbs
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

554—Saraph-Nosavvy-Tuffo association

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 4,720 to 6,580
Precipitation: 8 to 12 inches
Air temperature: 45 to 50 degrees Fahrenheit
Frost-free period: 100 to 120 days

Composition

Saraph gravelly ashy loam, 30 to 50 percent slopes—35 percent
Nosavvy very cobbly ashy loam, 30 to 50 percent slopes—30 percent
Tuffo very gravelly ashy sandy loam, 30 to 50 percent slopes—20 percent
Old Camp very stony loam, 30 to 50 percent slopes—7 percent
Reywat very stony loam, 30 to 50 percent slopes—5 percent
Cormol very cobbly ashy loam, 30 to 50 percent slopes—2 percent
Bucklake very cobbly loam, 30 to 50 percent slopes—1 percent

Component Description

Saraph and similar soils

Landform: Backslopes of plateaus
Slope: 30 to 50 percent
Parent material: Residuum weathered from tuff
Typical vegetation: Other perennial forbs, Thurber's
needlegrass, Indian ricegrass, other perennial
grasses, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones
Layer 1—0 to 4 inches; gravelly ashy loam
Layer 2—4 to 9 inches; ashy sandy loam
Layer 3—9 to 16 inches; ashy clay loam
Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (paralithic): 14 to 20
inches
Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately
slow)
Available water capacity: About 3 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Nosavvy and similar soils

Landform: Backslopes of plateaus
Slope: 30 to 50 percent
Parent material: Volcanic ash and colluvium derived
from volcanic rock
Typical vegetation: Lahontan sagebrush, other perennial
forbs, other shrubs, Webber needlegrass, Thurber's
needlegrass, Indian ricegrass

Typical profile:

Surface rock fragments: About 4 percent stones
Layer 1—0 to 6 inches; very cobbly ashy loam
Layer 2—6 to 29 inches; gravelly ashy sandy clay loam
Layer 3—29 to 36 inches; very cobbly ashy sandy loam
Layer 4—36 to 63 inches; paragravelly ashy sandy loam

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)
Available water capacity: About 7 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: R023XY093NV—Gravelly clay 10-12
P.Z.

Component Description

Tuffo and similar soils

Landform: Backslopes of ash flows
Slope: 30 to 50 percent
Parent material: Residuum derived from tuffaceous
rocks
Typical vegetation: Bottlebrush squirreltail, other shrubs,
Wyoming big sagebrush, other perennial forbs, other
perennial grasses, Indian ricegrass

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam
Layer 2—1 to 8 inches; gravelly ashy sandy loam
Layer 3—8 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (paralithic): 4 to 14
inches
Saturated hydraulic conductivity class (root zone): High,
(Permeability class: Moderately rapid)
Available water capacity: About 1.1 inches
Present flooding: None
Present ponding: None
Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in
characteristics are in the "Classification of the Soils"
section.

Contrasting Inclusions

Old Camp and similar soils

Composition: 0 to 7 percent

Slope: 30 to 50 percent
 Landform: Plateaus
 Typical vegetation: Wyoming big sagebrush, other shrubs, Indian ricegrass, other perennial forbs, other perennial grasses, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Reywat and similar soils

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush, basin wildrye, Thurber's needlegrass
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Cormol and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent, east to southwest aspects
 Landform: East to southwest aspects on backslopes of plateaus
 Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, antelope bitterbrush, Wyoming big sagebrush
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Bucklake and similar soils

Composition: 0 to 1 percent
 Slope: 30 to 50 percent
 Landform: Plateaus
 Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, basin wildrye, antelope bitterbrush, Thurber's needlegrass
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

555—Saraph-Old Camp-Skedaddle association

Map Unit Setting

MLRA: 23
 Landscape: Hills

Elevation: 5,100 to 5,380
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Saraph very cobbly ashy sandy loam, 4 to 15 percent slopes—40 percent
 Old Camp very stony sandy loam, 8 to 30 percent slopes—30 percent
 Skedaddle very gravelly sandy loam, 4 to 30 percent slopes—20 percent
 Reywat very stony loam, 15 to 30 percent slopes—5 percent
 Wylo very stony loam, 4 to 15 percent slopes—4 percent
 Macnot gravelly ashy sandy loam, 0 to 2 percent slopes—1 percent

Component Description

Saraph and similar soils

Landform: Hills
 Slope: 4 to 15 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Indian ricegrass, Thurber's needlegrass, other perennial forbs, other perennial grasses, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 4 inches; very cobbly ashy sandy loam
 Layer 2—4 to 9 inches; ashy sandy loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Old Camp and similar soils

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, Thurber's needlegrass, Wyoming big sagebrush, other shrubs

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 2 inches; very stony sandy loam

Layer 2—2 to 14 inches; extremely stony clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Skedaddle and similar soils

Landform: Backslopes of hills

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Other perennial forbs, Wyoming big sagebrush, Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very gravelly sandy loam

Layer 2—2 to 10 inches; very gravelly loam

Layer 3—10 to 20 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 4 to 12 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 0.9 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Reywat and similar soils

Composition: 0 to 5 percent

Slope: 15 to 30 percent, east to west aspects

Landform: East to west aspects on backslopes of hills

Typical vegetation: Basin wildrye, antelope bitterbrush, Thurber's needlegrass, Wyoming big sagebrush, bluebunch wheatgrass

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Wylo and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on shoulders of hills

Typical vegetation: Other perennial forbs, Lahontan sagebrush, bluegrass, Thurber's needlegrass, bluebunch wheatgrass

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Macnot nearly level and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Inset fans

Typical vegetation: Other shrubs, basin wildrye, thickspike wheatgrass, big sagebrush, other perennial forbs, spiny hopsage

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section

"Engineering" and "Soil Properties" sections

556—Saraph-Tuffo-Old Camp association

Map Unit Setting

MLRA: 23

Landscape: Hills

Elevation: 5,070 to 6,220

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Saraph very gravelly ashy sandy loam, 8 to 50 percent slopes—50 percent

Tuffo very gravelly ashy sandy loam, 8 to 50 percent slopes—25 percent

Old Camp very stony sandy loam, 8 to 30 percent slopes—15 percent

Nosavvy very cobbly ashy loam, 30 to 50 percent slopes—5 percent

Skedaddle very gravelly sandy loam, 15 to 30 percent slopes—3 percent

Pickup very stony loam, 30 to 50 percent slopes—2 percent

Component Description

Saraph and similar soils

Landform: Hills

Slope: 8 to 50 percent

Parent material: Residuum weathered from tuff

Typical vegetation: Thurber's needlegrass, other perennial grasses, other perennial forbs, other shrubs, Indian ricegrass, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 4 inches; very gravelly ashy sandy loam

Layer 2—4 to 9 inches; ashy sandy loam

Layer 3—9 to 16 inches; ashy clay loam

Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Tuffo and similar soils

Landform: Backslopes of ash flows

Slope: 8 to 50 percent

Parent material: Residuum derived from tuffaceous rocks

Typical vegetation: Other shrubs, Indian ricegrass, bottlebrush squirreltail, other perennial grasses, other perennial forbs, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 1 inches; very gravelly ashy sandy loam

Layer 2—1 to 8 inches; gravelly ashy sandy loam

Layer 3—8 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 4 to 14 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 1.1 inches

Present flooding: None

Present ponding: None

Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY088NV—Chalky knoll

Component Description

Old Camp and similar soils

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from volcanic rock

Typical vegetation: Wyoming big sagebrush, Thurber's needlegrass, other perennial grasses, other perennial forbs, Indian ricegrass, other shrubs

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 2 inches; very stony sandy loam
 Layer 2—2 to 14 inches; extremely stony clay loam
 Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 1.4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Nosavvy and similar soils**

Composition: 0 to 5 percent
 Slope: 30 to 50 percent
 Landform: Backslopes of hills
 Typical vegetation: Lahontan sagebrush, other shrubs, Webber needlegrass, Thurber's needlegrass, Indian ricegrass, other perennial forbs
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Skedaddle and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of hills
 Typical vegetation: Indian ricegrass, bottlebrush squirreltail, other perennial forbs, other perennial grasses, Wyoming big sagebrush, other shrubs
 Ecological site: R023XY088NV—Chalky knoll

Pickup and similar soils

Composition: 0 to 2 percent
 Slope: 30 to 50 percent
 Landform: Hills

Typical vegetation: Bluegrass, bluebunch wheatgrass, Thurber's needlegrass, other perennial forbs, Lahontan sagebrush
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

557—Saraph-Tuffo-Yellowhills association**Map Unit Setting**

MLRA: 23
 Landscape: Hills
 Elevation: 5,110 to 6,250
 Precipitation: 8 to 12 inches
 Air temperature: 42 to 48 degrees Fahrenheit
 Frost-free period: 80 to 120 days

Composition

Saraph ashy loamy sand, 2 to 8 percent slopes—50 percent
 Tuffo ashy fine sandy loam, 15 to 30 percent slopes—25 percent
 Yellowhills ashy sandy loam, 0 to 2 percent slopes—15 percent
 Badland, 50 to 75 percent slopes—5 percent
 Devada very stony loam, 4 to 15 percent slopes—5 percent

Component Description**Saraph and similar soils**

Landform: Summits of hills
 Slope: 2 to 8 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Thurber's needlegrass, other perennial grasses, other perennial forbs, Wyoming big sagebrush, Indian ricegrass, other shrubs

Typical profile:

Layer 1—0 to 4 inches; ashy loamy sand
 Layer 2—4 to 9 inches; ashy sandy clay loam
 Layer 3—9 to 16 inches; ashy clay loam
 Layer 4—16 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Tuffo and similar soils

Landform: Hills
 Slope: 15 to 30 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Big sagebrush, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 1 inches; ashy fine sandy loam
 Layer 2—1 to 8 inches; gravelly ashy sandy loam
 Layer 3—8 to 18 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 4 to 14 inches
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 1.2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Component Description

Yellowhills and similar soils

Landform: Inset fans
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from mixed rocks and volcanic ash

Typical vegetation: Thurber's needlegrass, basin big sagebrush, other perennial forbs, other perennial grasses, bluebunch wheatgrass, other shrubs, basin wildrye, Idaho fescue

Typical profile:

Layer 1—0 to 17 inches; ashy sandy loam
 Layer 2—17 to 37 inches; ashy sandy loam
 Layer 3—37 to 60 inches; ashy fine sandy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
 Available water capacity: About 14 inches
 Present flooding: Rare
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6c
 Ecological site: R023XY071NV—Ashy loam 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Badland

Composition: 0 to 5 percent
 Slope: 50 to 75 percent
 Landform: Backslopes of hills

Devada and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Summits of hills
 Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

558—Schamp loam, 4 to 15 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Hills

Elevation: 4,450 to 5,750

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Schamp loam, 4 to 15 percent slopes—85 percent

Old Camp very stony loam, 2 to 8 percent slopes—9 percent

Davey loamy fine sand, 2 to 15 percent slopes—3 percent

Langston gravelly sandy loam, 2 to 15 percent slopes—3 percent

Component Description**Schamp and similar soils**

Landform: Hills

Slope: 4 to 15 percent

Parent material: Alluvium and colluvium derived from volcanic rock

Typical vegetation: Other perennial forbs, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other shrubs, Wyoming big sagebrush

Typical profile:

Layer 1—0 to 5 inches; loam

Layer 2—5 to 8 inches; clay loam

Layer 3—8 to 32 inches; clay

Layer 4—32 to 43 inches; sandy clay loam

Layer 5—43 to 60 inches; very cobbly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Old Camp and similar soils**

Composition: 0 to 9 percent

Slope: 2 to 8 percent

Landform: Hills

Typical vegetation: Other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Indian ricegrass, Thurber's needlegrass

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Davey and similar soils

Composition: 0 to 3 percent

Slope: 2 to 15 percent

Landform: Beach terraces

Typical vegetation: Big sagebrush, spiny hopsage, Indian ricegrass, Thurber's needlegrass, needleandthread, other perennial forbs

Ecological site: R023XY051NV—Sandy 8-12 P.Z.

Langston and similar soils

Composition: 0 to 3 percent

Slope: 2 to 15 percent

Landform: Longshore bar (relict)s

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

559—Schamp stony loam, 30 to 50 percent slopes**Map Unit Setting**

MLRA: 23

Landscape: Hills

Elevation: 4,640 to 6,590

Precipitation: 8 to 10 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Schamp stony loam, 30 to 50 percent slopes—85 percent

Zymans very stony loam, 30 to 50 percent slopes—8 percent

McConnel gravelly sandy loam, 2 to 15 percent slopes—4 percent

Chime very gravelly loam, 4 to 15 percent slopes—3 percent

Component Description

Schamp and similar soils

Landform: Hills

Slope: 30 to 50 percent

Parent material: Alluvium and colluvium derived from volcanic rock

Typical vegetation: Indian ricegrass, Thurber's needlegrass, other shrubs, other perennial grasses, other perennial forbs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 10 percent stones, 10 percent cobbles, 11 percent gravel

Layer 1—0 to 5 inches; stony loam

Layer 2—5 to 8 inches; clay loam

Layer 3—8 to 32 inches; clay

Layer 4—32 to 43 inches; sandy clay loam

Layer 5—43 to 60 inches; very cobbly loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Zymans and similar soils

Composition: 0 to 8 percent

Slope: 30 to 50 percent

Landform: Backslopes of hills

Typical vegetation: Big sagebrush, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

McConnel and similar soils

Composition: 0 to 4 percent

Slope: 2 to 15 percent

Landform: Inset fans

Typical vegetation: Spiny hopsage, Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, Wyoming big sagebrush, other shrubs

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Chime and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Hills

Typical vegetation: Bottlebrush squirreltail, Indian ricegrass, spiny hopsage, other shrubs, Wyoming big sagebrush, Sandberg bluegrass, Thurber's needlegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

560—Sedsked-Skedaddle association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 4,770 to 5,940

Precipitation: 8 to 12 inches

Air temperature: 45 to 50 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Sedsked extremely gravelly loam, 30 to 50 percent slopes—50 percent

Skedaddle very stony loam, 30 to 50 percent slopes—40 percent

Reywat very stony loam, 30 to 50 percent slopes—5 percent

Gorzell very gravelly sandy loam, 15 to 30 percent slopes—3 percent

Bombadil very stony loam, 30 to 50 percent slopes—2 percent

Component Description

Sedsked and similar soils

Landform: Backslopes of plateaus

Slope: 30 to 50 percent

Parent material: Colluvium and residuum derived from metasedimentary rocks

Typical vegetation: Thurber's needlegrass, bottlebrush squirreltail, Sandberg bluegrass, other shrubs, Indian ricegrass, Wyoming big sagebrush, spiny hopsage

Typical profile:

Layer 1—0 to 3 inches; extremely gravelly loam

Layer 2—3 to 11 inches; very gravelly clay loam

Layer 3—11 to 21 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 0.7 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Component Description

Skedaddle and similar soils

Landform: Plateaus

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Other shrubs, Wyoming big sagebrush, other perennial forbs, other perennial grasses, Indian ricegrass, bottlebrush squirreltail

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 5 inches; very stony loam

Layer 2—5 to 11 inches; very gravelly loam

Layer 2—11 to 21 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 4 to 12 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 0.9 inch

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY088NV—Chalky knoll

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Reywat and similar soils

Composition: 0 to 5 percent

Slope: 30 to 50 percent

Landform: Plateaus

Typical vegetation: Thurber's needlegrass, antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Gorzell and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Beach terraces

Typical vegetation: Wyoming big sagebrush, Sandberg bluegrass, bottlebrush squirreltail, Thurber's needlegrass, spiny hopsage, other shrubs, Indian ricegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Bombadil and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Plateaus

Typical vegetation: Indian ricegrass, Thurber's needlegrass, bottlebrush squirreltail, Sandberg

bluegrass, Wyoming big sagebrush, other shrubs, spiny hopsage

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

561—Simpson gravelly ashy sandy loam, 5 to 15 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Fan piedmont

Elevation: 4,460 to 5,070

Precipitation: 12 to 20 inches

Air temperature: 46 to 50 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Simpson ashy sandy loam, 5 to 15 percent slopes—85 percent

Simpson ashy sandy loam, 0 to 2 percent slopes—6 percent

Surprise gravelly ashy sandy loam, 2 to 5 percent slopes—5 percent

Nevadash ashy fine sandy loam, dry, 2 to 5 percent slopes—4 percent

Component Description

Simpson and similar soils

Landform: Fan remnants

Slope: 5 to 15 percent

Parent material: Volcanic ash and alluvium over lacustrine deposits derived from volcanic rock

Typical vegetation: Thurber's needlegrass, big sagebrush, other perennial forbs, other shrubs, antelope bitterbrush, bluegrass, bluebunch wheatgrass

Typical profile:

Layer 1—0 to 3 inches; ashy sandy loam

Layer 2—3 to 23 inches; ashy clay

Layer 3—23 to 37 inches; stratified gravelly ashy loamy sand to ashy sandy loam

Layer 4—37 to 48 inches; stratified gravel to ashy very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 4e

Nonirrigated land capability: 4e

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Simpson and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Fan remnants

Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, other perennial forbs, bluegrass, big sagebrush, Thurber's needlegrass, other shrubs

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Surprise and similar soils

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Thurber's needlegrass, big sagebrush, bluegrass, bluebunch wheatgrass, antelope bitterbrush, other shrubs, other perennial forbs

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Nevadash and similar soils

Composition: 0 to 4 percent

Slope: 2 to 5 percent

Landform: Fan aprons

Typical vegetation: Other shrubs, Wyoming big sagebrush, Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

562—Simpson ashy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,480 to 4,660
 Precipitation: 12 to 20 inches
 Air temperature: 46 to 50 degrees Fahrenheit
 Frost-free period: 90 to 120 days

Composition

Simpson ashy sandy loam, 0 to 2 percent slopes—90 percent
 Surprise gravelly ashy sandy loam, 2 to 5 percent slopes—4 percent
 Couch ashy loam, 0 to 2 percent slopes—3 percent
 Nevadash ashy fine sandy loam, dry, 0 to 2 percent slopes—3 percent

Component Description

Simpson and similar soils

Landform: Fan remnants
 Slope: 0 to 2 percent
 Parent material: Volcanic ash and alluvium over lacustrine deposits derived from volcanic rock
 Typical vegetation: Big sagebrush, Thurber's needlegrass, other shrubs, bluegrass, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Layer 1—0 to 3 inches; ashy sandy loam
 Layer 2—3 to 23 inches; ashy clay
 Layer 3—23 to 37 inches; stratified gravelly ashy loamy sand to ashy sandy loam
 Layer 4—37 to 48 inches; stratified gravel to ashy very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2s
 Nonirrigated land capability: 4s
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Surprise and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Bluebunch wheatgrass, other perennial forbs, other shrubs, bluegrass, big sagebrush, Thurber's needlegrass, antelope bitterbrush
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Couch and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Summits of basin-floor remnants
 Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, other perennial grasses, Lemmon's alkaligrass
 Ecological site: R023XY002NV—Saline meadow

Nevadash and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Fan aprons
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

- "Range" section
- "Crops and Pasture" section
- "Engineering" and "Soil Properties" sections

563—Simpson ashy sandy loam, 2 to 5 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,450 to 4,950
 Precipitation: 12 to 20 inches
 Air temperature: 46 to 50 degrees Fahrenheit
 Frost-free period: 90 to 120 days

Composition

Simpson ashy sandy loam, 2 to 5 percent slopes—85 percent
 Bidwell ashy loam, 2 to 5 percent slopes—4 percent
 Surprise gravelly ashy sandy loam, 2 to 5 percent slopes—4 percent
 Husa ashy clay loam, 0 to 2 percent slopes—3 percent
 Donica very stony ashy sandy loam, 2 to 15 percent slopes—2 percent
 Fluvaquents very gravelly coarse sand, 2 to 5 percent slopes—2 percent

Component Description

Simpson and similar soils

Landform: Fan remnants
 Slope: 2 to 5 percent
 Parent material: Volcanic ash and alluvium over lacustrine deposits derived from volcanic rock
 Typical vegetation: Big sagebrush, other shrubs, antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 4 inches; ashy sandy loam
 Layer 2—4 to 23 inches; ashy clay
 Layer 3—23 to 37 inches; stratified gravelly ashy loamy sand to ashy sandy loam
 Layer 4—37 to 48 inches; stratified gravel to ashy very gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e
 Nonirrigated land capability: 4e
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bidwell and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Thurber's needlegrass, bluegrass, bluebunch wheatgrass, antelope bitterbrush, other shrubs, other perennial forbs, big sagebrush
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Surprise and similar soils

Composition: 0 to 4 percent
 Slope: 2 to 5 percent
 Landform: Fan remnants
 Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, other shrubs, bluegrass, other perennial forbs, Thurber's needlegrass, big sagebrush
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Husa and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces

Donica and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 15 percent
 Landform: Fan remnants

Typical vegetation: Bluebunch wheatgrass, antelope bitterbrush, other shrubs, other perennial forbs, Thurber's needlegrass, big sagebrush, bluegrass
 Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Fluvaquents and similar soils

Composition: 0 to 2 percent
 Classification: Mesic Fluvaquents
 Slope: 2 to 5 percent
 Landform: Drainageways
 Typical vegetation: Forest canopy—black cottonwood
 Forest understory—inland saltgrass, basin wildrye, beardless wildrye, Fremont's cottonwood, other perennial grasses, bluebunch wheatgrass, other perennial forbs, other shrubs
 Ecological site: F023XY034NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

564—Skullwak silt loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Bolson
 Elevation: 4,460 to 4,560
 Precipitation: 7 to 8 inches
 Air temperature: 44 to 46 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Skullwak silt loam, 0 to 2 percent slopes—90 percent
 Updike silt loam, 0 to 2 percent slopes—6 percent
 Longdis fine sandy loam, 0 to 2 percent slopes—4 percent

Component Description

Skullwak and similar soils

Landform: Basin floors
 Slope: 0 to 2 percent
 Parent material: Lacustrine deposits
 Typical vegetation: Inland saltgrass, basin wildrye, other perennial grasses, Lemmon's alkaligrass, Nevada bluegrass

Typical profile:

Layer 1—0 to 5 inches; silt loam
 Layer 2—5 to 60 inches; stratified silty clay loam to silty clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Salinity: Saline within 40 inches
 Sodicity: Sodic within 40 inches
 Available water capacity: About 12 inches
 Present flooding: Frequent
 Present ponding: None
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Nonirrigated land capability: 7w
 Ecological site: R023XY002NV—Saline meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Updike and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Nevada bluegrass, black greasewood, inland saltgrass, basin wildrye
 Ecological site: R023XY010NV—Saline bottom

Longdis and similar soils

Composition: 0 to 4 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Spiny hopsage, other shrubs, black greasewood, big sagebrush, other perennial forbs, other perennial grasses, basin wildrye, bottlebrush squirreltail
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

565—Snag-Brownsbowl-Hashwoods association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 6,050 to 7,820

Precipitation: 12 to 16 inches

Air temperature: 42 to 47 degrees Fahrenheit

Frost-free period: 60 to 80 days

Composition

Snag very stony ashy sandy loam, 2 to 8 percent slopes—50 percent

Brownsbowl gravelly ashy sandy loam, 8 to 15 percent slopes—25 percent

Hashwoods ashy fine sandy loam, 4 to 15 percent slopes—15 percent

Hutchley very cobbly sandy loam, 4 to 15 percent slopes—5 percent

Mosquet very gravelly fine sandy loam, 4 to 15 percent slopes—4 percent

Grimlake cobbly clay, 0 to 2 percent slopes—1 percent

Component Description

Snag and similar soils

Landform: Ground moraines

Slope: 2 to 8 percent

Parent material: Volcanic ash and till derived from volcanic rock

Typical vegetation: Mountain big sagebrush, other shrubs, other perennial grasses, bluegrass, basin wildrye, Idaho fescue, mountain brome, snowberry, other perennial forbs, needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 4 inches; very stony ashy sandy loam

Layer 2—4 to 30 inches; extremely stony ashy sandy loam

Layer 3—30 to 62 inches; very cobbly ashy sandy clay loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 5 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY019NV—Loamy 16+ P.Z.

Component Description

Brownsbowl and similar soils

Landform: Northeast to northwest aspects on footslopes of plateaus

Slope: 8 to 15 percent, northeast to northwest aspects

Parent material: Volcanic ash and colluvium derived from andesite

Typical vegetation: Needlegrass, mountain brome, mountain big sagebrush, Idaho fescue, other shrubs, other perennial forbs, melic

Typical profile:

Layer 1—0 to 10 inches; gravelly ashy sandy loam

Layer 2—10 to 28 inches; gravelly ashy sandy loam

Layer 3—28 to 34 inches; cobbly ashy sandy loam

Layer 4—34 to 41 inches; very cobbly ashy sandy loam

Layer 5—41 to 61 inches; extremely cobbly ashy fine sandy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Component Description

Hashwoods and similar soils

Landform: Northwest to northeast aspects on backslopes of plateaus

Slope: 4 to 15 percent, northwest to northeast aspects

Parent material: Volcanic ash and colluvium derived from andesite over residuum weathered from tuff breccia

Typical vegetation: Forest canopy—quaking aspen
Forest understory—mountain brome, slender wheatgrass, Nevada bluegrass, other perennial grasses, other perennial forbs, other shrubs, snowberry, quaking aspen

Site index: Quaking aspen—40 at an age base of 50 years

Typical profile:

Layer 1—0 to 15 inches; ashy fine sandy loam

Layer 2—15 to 31 inches; very cobbly ashy fine sandy loam

Layer 3—31 to 48 inches; very paragravelly ashy loam

Layer 4—48 to 59 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7c

Ecological site: F023XY028NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Hutchley and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent, north aspect

Landform: North facing summits of plateaus

Typical vegetation: Idaho fescue, needlegrass, mountain big sagebrush, basin wildrye, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Ecological site: R023XY008NV—Mountain ridge

Mosquet and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent, north aspect

Landform: North facing plateaus

Typical vegetation: Idaho fescue, bluegrass, other perennial grasses, other perennial forbs, low sagebrush

Ecological site: R023XY014NV—Shallow loam 14+ P.Z.

Grimlake and similar soils

Composition: 0 to 1 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Other perennial forbs, other perennial grasses, Nevada bluegrass, sedge

Ecological site: R023XY013NV—Dry meadow

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

566—Softscrabble very cobbly loam, 4 to 15 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,080 to 6,710

Precipitation: 14 to 20 inches

Air temperature: 43 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

Composition

Softscrabble very cobbly loam, 4 to 15 percent slopes—85 percent

Harskel extremely cobbly ashy loam, 8 to 30 percent slopes—4 percent

Steerlake very cobbly loam, 4 to 15 percent slopes—4 percent

Cormol very cobbly ashy loam, 15 to 30 percent slopes—3 percent

Madeline very cobbly loam, 4 to 15 percent slopes—3 percent

Rock outcrop—1 percent

Component Description

Softscrabble and similar soils

Landform: Backslopes of plateaus

Slope: 4 to 15 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Bluebunch wheatgrass, basin wildrye, needlegrass, antelope bitterbrush, mountain big sagebrush, other perennial forbs

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam
 Layer 3—32 to 61 inches; gravelly clay loam
 Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Harskel and similar soils

Composition: 0 to 4 percent
 Slope: 8 to 30 percent
 Landform: Plateaus
 Typical vegetation: Other perennial forbs, antelope bitterbrush, mountain big sagebrush, needlegrass, bluebunch wheatgrass
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Steerlake and similar soils

Composition: 0 to 4 percent
 Slope: 4 to 15 percent
 Landform: Landslides
 Typical vegetation: Big sagebrush, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Cormol and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent, east to southwest aspects
 Landform: East to southwest aspects on backslopes of plateaus
 Typical vegetation: Bluebunch wheatgrass, basin wildrye, antelope bitterbrush, Thurber's needlegrass, Wyoming big sagebrush

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Madeline and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Antelope bitterbrush, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, needlegrass
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Rock outcrop

Composition: 0 to 1 percent
 Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

567—Softscrabble-Dosie-Hutchley association

Map Unit Setting

MLRA: 23
 Landscape: Mountains
 Elevation: 5,930 to 6,760
 Precipitation: 12 to 20 inches
 Air temperature: 39 to 46 degrees Fahrenheit
 Frost-free period: 50 to 90 days

Composition

Softscrabble very cobbly loam, 30 to 50 percent slopes—35 percent
 Dosie very gravelly loam, 30 to 50 percent slopes—30 percent
 Hutchley very cobbly sandy loam, 4 to 30 percent slopes—20 percent
 Rock outcrop, 50 to 70 percent slopes—5 percent
 Wylo very stony loam, 4 to 30 percent slopes—5 percent
 Cumulic Cryaquolls muck, cool, 4 to 30 percent slopes—3 percent
 Lithic Argixerolls very gravelly ashy loam, 50 to 75 percent slopes—2 percent

Component Description

Softscrabble and similar soils

Landform: Mountains

Slope: 30 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Mountain big sagebrush, needlegrass, Idaho fescue, basin wildrye, bluebunch wheatgrass, other perennial forbs, antelope bitterbrush

Typical profile:

Surface rock fragments: About 8 percent stones, 17 percent cobbles, 30 percent gravel, 3 percent fine gravel

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Component Description

Dosie and similar soils

Landform: Southeast to southwest aspects on mountains

Slope: 30 to 50 percent, southeast to southwest aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, basin wildrye, bluebunch wheatgrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones, 5 percent cobbles, 34 percent gravel, 8 percent fine gravel

Layer 1—0 to 5 inches; very gravelly loam

Layer 2—5 to 41 inches; very gravelly clay

Layer 3—41 to 51 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Hutchley and similar soils

Landform: Mountains

Slope: 4 to 30 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, basin wildrye, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very cobbly sandy loam

Layer 2—6 to 14 inches; very gravelly clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 5 percent
Slope: 50 to 70 percent
Landform: Peaks

Wylo and similar soils

Composition: 0 to 5 percent
Slope: 4 to 30 percent
Landform: Mountains
Typical vegetation: Bluegrass, Lahontan sagebrush,
other perennial forbs, bluebunch wheatgrass,
Thurber's needlegrass
Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Cumulic Cryaquolls and similar soils

Composition: 0 to 3 percent
Classification: Ashy, glassy Cumulic Cryaquolls
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Other perennial forbs, water sedge,
Nebraska sedge, tufted hairgrass, willow
Ecological site: R021XE207CA—Wet meadow

Lithic Argixerolls and similar soils

Composition: 0 to 2 percent
Classification: Loamy-skeletal, mixed, superactive, frigid
Lithic Argixerolls
Slope: 50 to 75 percent
Landform: Mountains
Typical vegetation: Needlegrass, Idaho fescue,
bluebunch wheatgrass, Cusick's bluegrass, mountain
big sagebrush, curlleaf mountainmahogany
Ecological site: R023XY026NV—Mahogany Savanna

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

568—Softscrabble-Hart Camp association

Map Unit Setting

MLRA: 23
Landscape: Mountains
Elevation: 5,020 to 7,490
Precipitation: 10 to 20 inches
Air temperature: 43 to 45 degrees Fahrenheit
Frost-free period: 50 to 90 days

Composition

Softscrabble cobbly loam, 8 to 30 percent slopes—45 percent
Hart Camp stony loam, 8 to 30 percent slopes—40 percent
Devada very stony loam, 4 to 15 percent slopes—5 percent
Grimlake cobbly clay, 0 to 2 percent slopes—5 percent
Dosie very gravelly loam, 15 to 50 percent slopes—3 percent
Rock outcrop, 50 to 70 percent slopes—2 percent

Component Description

Softscrabble and similar soils

Landform: Mountains
Slope: 8 to 30 percent
Parent material: Residuum and colluvium derived from volcanic rocks
Typical vegetation: Basin wildrye, mountain big sagebrush, antelope bitterbrush, needlegrass, bluebunch wheatgrass, other perennial forbs

Typical profile:

Surface rock fragments: About 2 percent stones, 6 percent cobbles, 11 percent gravel, 3 percent fine gravel
Layer 1—0 to 20 inches; cobbly loam
Layer 2—20 to 32 inches; very cobbly clay loam
Layer 3—32 to 61 inches; gravelly clay loam
Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches
Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
Available water capacity: About 8 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Component Description

Hart Camp and similar soils

Landform: Mountains

Slope: 8 to 30 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Bluebunch wheatgrass, other perennial forbs, antelope bitterbrush, needlegrass, mountain big sagebrush

Typical profile:

Surface rock fragments: About 10 percent stones, 10 percent cobbles, 13 percent gravel, 7 percent fine gravel

Layer 1—0 to 3 inches; stony loam

Layer 2—3 to 13 inches; gravelly sandy clay loam

Layer 3—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 5 percent

Slope: 4 to 15 percent

Landform: Mountains

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, bluegrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Grimlake and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake plains

Typical vegetation: Sedge, Nevada bluegrass, other perennial grasses, other perennial forbs

Ecological site: R023XY013NV—Dry meadow

Dosie and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent, southeast to southwest aspects

Landform: Southeast to southwest aspects on mountains

Typical vegetation: Basin wildrye, bluebunch

wheatgrass, mountain big sagebrush, needlegrass

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Slope: 50 to 70 percent

Landform: Peaks

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

569—Softscrabble-Sumine-Hutchley association

Map Unit Setting

MLRA: 23

Landscape: Mountains

Elevation: 5,650 to 7,480

Precipitation: 10 to 20 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 50 to 100 days

Composition

Softscrabble very cobbly loam, 15 to 50 percent slopes—40 percent

Sumine stony loam, 15 to 50 percent slopes—30 percent

Hutchley very cobbly sandy loam, 4 to 30 percent slopes—15 percent

Rock outcrop, 50 to 70 percent slopes—6 percent

Aridic Argixerolls very stony loam, 4 to 30 percent slopes—4 percent

Thulepah stony loam, 8 to 30 percent slopes—3 percent

Bucklake very stony loam, 15 to 30 percent slopes—2 percent

Component Description

Softscrabble and similar soils

Landform: Mountains

Slope: 15 to 50 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Needlegrass, Idaho fescue, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush, basin wildrye

Typical profile:

Surface rock fragments: About 8 percent stones, 17 percent cobbles, 30 percent gravel, 3 percent fine gravel

Layer 1—0 to 20 inches; very cobbly loam

Layer 2—20 to 32 inches; very cobbly clay loam

Layer 3—32 to 61 inches; gravelly clay loam

Layer 4—61 to 71 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 60 to 71 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY007NV—Loamy 14-16 P.Z.

Component Description

Sumine and similar soils

Landform: Southeast to southwest aspects on mountains

Slope: 15 to 50 percent, southeast to southwest aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye, needlegrass

Typical profile:

Surface rock fragments: About 6 percent stones, 6 percent cobbles, 18 percent gravel, 5 percent fine gravel

Layer 1—0 to 6 inches; stony loam

Layer 2—6 to 28 inches; very gravelly clay loam

Layer 3—28 to 32 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Component Description

Hutchley and similar soils

Landform: Mountains

Slope: 4 to 30 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Needlegrass, mountain big sagebrush, Idaho fescue, basin wildrye, other perennial forbs, bluebunch wheatgrass, antelope bitterbrush

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very cobbly sandy loam

Layer 2—6 to 14 inches; very gravelly clay loam

Layer 3—14 to 24 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rock outcrop

Composition: 0 to 6 percent
Slope: 50 to 70 percent
Landform: Peaks

Aridic Argixerolls and similar soils

Composition: 0 to 4 percent
Classification: Loamy-skeletal, mixed, superactive, frigid
Aridic Argixerolls
Slope: 4 to 30 percent
Landform: Mountains
Typical vegetation: Other perennial forbs, other shrubs, low sagebrush, Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass
Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Thulepah and similar soils

Composition: 0 to 3 percent
Slope: 8 to 30 percent
Landform: Mountains
Typical vegetation: Mountain big sagebrush, other perennial forbs, other perennial grasses, bluegrass, other shrubs, basin wildrye, snowberry, Idaho fescue, needlegrass, mountain brome
Ecological site: R023XY019NV—Loamy 16+ P.Z.

Bucklake and similar soils

Composition: 0 to 2 percent
Slope: 15 to 30 percent
Landform: Mountains
Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, basin wildrye, Thurber's needlegrass, bluebunch wheatgrass
Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

570—Soughe-Rock outcrop complex, 30 to 50 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 4,860 to 6,360
Precipitation: 8 to 10 inches

Air temperature: 46 to 48 degrees Fahrenheit
Frost-free period: 80 to 100 days

Composition

Soughe very cobbly loam, 30 to 50 percent slopes—60 percent
Rock outcrop—25 percent
Uhaldi very cobbly sandy loam, 4 to 15 percent slopes—7 percent
Chime gravelly loam, 4 to 15 percent slopes—6 percent
Pachic Haploxerolls gravelly loam, 4 to 15 percent slopes—2 percent

Component Description

Soughe and similar soils

Landform: Plateaus
Slope: 30 to 50 percent
Parent material: Residuum and colluvium derived from volcanic rocks
Typical vegetation: Other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 1 percent stones, 18 percent cobbles, 25 percent gravel
Layer 1—0 to 4 inches; very cobbly loam
Layer 2—4 to 17 inches; very gravelly clay loam
Layer 3—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Rock outcrop

Landform: Plateaus

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Uhaldi and similar soils

Composition: 0 to 7 percent

Slope: 4 to 15 percent

Landform: Backslopes of plateaus

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs, big sagebrush

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Chime and similar soils

Composition: 0 to 6 percent

Slope: 4 to 15 percent

Landform: Rock pediments

Typical vegetation: Bottlebrush squirreltail, Thurber's needlegrass, Wyoming big sagebrush, other shrubs, spiny hopsage, Indian ricegrass, Sandberg bluegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Pachic Haploxerolls and similar soils

Composition: 0 to 2 percent

Classification: Loamy-skeletal, mixed, superactive, mesic Pachic Haploxerolls

Slope: 4 to 15 percent

Landform: Alluvial fans

Typical vegetation: Basin wildrye, Nevada bluegrass, basin big sagebrush, other perennial forbs, other perennial grasses

Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

571—Soughe-Rock outcrop complex, 4 to 30 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,380 to 6,320

Precipitation: 8 to 10 inches

Air temperature: 46 to 48 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Soughe very cobbly loam, 4 to 30 percent slopes—75 percent

Rock outcrop—15 percent

Bucklake very cobbly loam, 15 to 30 percent slopes—7 percent

Old Camp very cobbly loam, 15 to 30 percent slopes—3 percent

Component Description

Soughe and similar soils

Landform: Plateaus

Slope: 4 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Typical profile:

Surface rock fragments: About 1 percent stones, 18 percent cobbles, 25 percent gravel

Layer 1—0 to 4 inches; very cobbly loam

Layer 2—4 to 17 inches; very gravelly clay loam

Layer 3—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Component Description

Rock outcrop

Landform: Plateaus

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bucklake and similar soils

Composition: 0 to 7 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, Thurber's needlegrass

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Old Camp and similar soils

Composition: 0 to 3 percent

Slope: 15 to 30 percent

Landform: Plateaus

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

572—Steerlake-Reywat association

Map Unit Setting

MLRA: 23

Landscape: Hills

Elevation: 4,590 to 6,020

Precipitation: 10 to 14 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Steerlake very cobbly loam, 4 to 15 percent slopes—60 percent

Reywat very stony loam, 15 to 30 percent slopes—30 percent

Nitpac very cobbly loam, 2 to 8 percent slopes—4 percent

Devada very cobbly loam, 4 to 15 percent slopes—3 percent

Bucklake very cobbly loam, 15 to 50 percent slopes—2 percent

Saraph very cobbly ashy sandy loam, 15 to 30 percent slopes—1 percent

Component Description

Steerlake and similar soils

Landform: Landslides

Slope: 4 to 15 percent

Parent material: Mixed alluvium derived from volcanic rocks

Typical vegetation: Other perennial forbs, big sagebrush, bluebunch wheatgrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 3 inches; very cobbly loam

Layer 2—3 to 6 inches; cobbly clay loam

Layer 3—6 to 31 inches; clay

Layer 4—31 to 48 inches; loam

Layer 5—48 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Duripan: 40 to 58 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Component Description

Reywat and similar soils

Landform: East to west aspects on backslopes of hills

Slope: 15 to 30 percent, east to west aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, basin wildrye, bluebunch wheatgrass, Wyoming big sagebrush, antelope bitterbrush

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 6 inches; very stony loam

Layer 2—6 to 18 inches; very gravelly clay loam

Layer 3—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Nitpac and similar soils**

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Toeslopes of hills

Typical vegetation: Thurber's needlegrass, low sagebrush, bluebunch wheatgrass, other perennial forbs, Webber needlegrass, bluegrass

Ecological site: R023XY060NV—Cobbly claypan 8-12 P.Z.

Devada and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent

Landform: Summits of hills

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Bucklake and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Hills

Typical vegetation: Antelope bitterbrush, bluebunch wheatgrass, Wyoming big sagebrush, basin wildrye, Thurber's needlegrass

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Saraph and similar soils

Composition: 0 to 1 percent

Slope: 15 to 30 percent

Landform: Summits of rock pediments

Typical vegetation: Other perennial forbs, other shrubs, Thurber's needlegrass, Indian ricegrass, other perennial grasses, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

573—Steerlake-Wylo association**Map Unit Setting**

MLRA: 23

Landscape: Hills

Elevation: 4,800 to 5,500

Precipitation: 8 to 14 inches

Air temperature: 45 to 54 degrees Fahrenheit

Frost-free period: 80 to 120 days

Composition

Steerlake very cobbly loam, 4 to 15 percent slopes—50 percent

Wylo very stony loam, 4 to 15 percent slopes—35 percent

Old Camp very stony sandy loam, 4 to 8 percent slopes—7 percent

Bucklake very cobbly loam, 15 to 50 percent slopes—5 percent

Pickup very stony loam, 15 to 50 percent slopes—3 percent

Component Description**Steerlake and similar soils**

Landform: Landslides

Slope: 4 to 15 percent

Parent material: Mixed alluvium derived from volcanic rocks

Typical vegetation: Big sagebrush, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 3 inches; very cobbly loam

Layer 2—3 to 6 inches; cobbly clay loam
 Layer 3—6 to 31 inches; clay
 Layer 4—31 to 48 inches; loam
 Layer 5—48 to 60 inches; cemented material

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 40 to 58 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Component Description

Wylo and similar soils

Landform: Southeast to southwest aspects on shoulders of hills
 Slope: 4 to 15 percent, southeast to southwest aspects
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Bluebunch wheatgrass, bluegrass, other perennial forbs, Lahontan sagebrush, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 4 inches; very stony loam
 Layer 2—4 to 15 inches; cobbly clay
 Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Old Camp and similar soils

Composition: 0 to 7 percent
 Slope: 4 to 8 percent
 Landform: Backslopes of hills
 Typical vegetation: Indian ricegrass, other perennial grasses, other perennial forbs, other shrubs, Wyoming big sagebrush, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Bucklake and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of hills
 Typical vegetation: Basin wildrye, Thurber's needlegrass, antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Pickup and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 50 percent
 Landform: Backslopes of hills
 Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs, Lahontan sagebrush
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

574—Surprise gravelly ashy sandy loam, 0 to 2 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Fan piedmont
 Elevation: 4,500 to 4,630
 Precipitation: 10 to 18 inches

Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 90 to 110 days

Composition

Surprise gravelly ashy sandy loam, 0 to 2 percent slopes—90 percent
Bidwell ashy loam, 0 to 2 percent slopes—5 percent
Donica gravelly ashy sandy loam, 2 to 5 percent slopes—2 percent
Hussa ashy clay loam, 0 to 2 percent slopes—2 percent
Four Star ashy loam, 0 to 2 percent slopes—1 percent

Component Description

Surprise and similar soils

Landform: Fan remnants
Slope: 0 to 2 percent
Parent material: Alluvium derived from volcanic rock
Typical vegetation: Thurber's needlegrass, big sagebrush, bluegrass, other perennial forbs, bluebunch wheatgrass, other shrubs, antelope bitterbrush

Typical profile:

Layer 1—0 to 9 inches; gravelly ashy sandy loam
Layer 2—9 to 28 inches; stratified gravelly ashy sandy loam to gravelly ashy loam
Layer 3—28 to 57 inches; stratified very gravelly ashy sandy loam to gravelly ashy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)
Available water capacity: About 6 inches
Present flooding: Rare
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2s
Nonirrigated land capability: 4s
Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bidwell and similar soils

Composition: 0 to 5 percent
Slope: 0 to 2 percent
Landform: Fan remnants
Typical vegetation: Big sagebrush, Thurber's needlegrass, other shrubs, antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, bluegrass
Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Donica and similar soils

Composition: 0 to 2 percent
Slope: 2 to 5 percent
Landform: Fan remnants
Typical vegetation: Other perennial forbs, bluebunch wheatgrass, other shrubs, antelope bitterbrush, bluegrass, Thurber's needlegrass, big sagebrush
Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Hussa and similar soils

Composition: 0 to 2 percent
Slope: 0 to 2 percent
Landform: Lake terraces

Four Star and similar soils

Composition: 0 to 1 percent
Slope: 0 to 2 percent
Landform: Flood plains

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

575—Surprise gravelly ashy sandy loam, 2 to 5 percent slopes

Map Unit Setting

MLRA: 23
Landscape: Fan piedmont
Elevation: 4,480 to 5,030
Precipitation: 10 to 18 inches
Air temperature: 45 to 52 degrees Fahrenheit
Frost-free period: 90 to 110 days

Composition

Surprise gravelly ashy sandy loam, 2 to 5 percent slopes—85 percent

Bidwell ashy loam, 2 to 5 percent slopes—5 percent

Donica gravelly ashy sandy loam, 2 to 5 percent slopes—4 percent

Simpson ashy sandy loam, 2 to 5 percent slopes—4 percent

Fluvaquents very gravelly coarse sand, 2 to 5 percent slopes—2 percent

Component Description**Surprise and similar soils**

Landform: Fan remnants

Slope: 2 to 5 percent

Parent material: Alluvium derived from volcanic rock

Typical vegetation: Big sagebrush, other shrubs, antelope bitterbrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass

Typical profile:

Layer 1—0 to 9 inches; gravelly ashy sandy loam

Layer 2—9 to 28 inches; stratified gravelly ashy sandy loam to gravelly ashy loam

Layer 3—28 to 57 inches; stratified very gravelly ashy sandy loam to gravelly ashy loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 6 inches

Present flooding: Rare

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 4e

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Bidwell and similar soils**

Composition: 0 to 5 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, antelope bitterbrush, Thurber's needlegrass, big sagebrush, bluegrass, other perennial forbs, bluebunch wheatgrass

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Donica and similar soils

Composition: 0 to 4 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Other shrubs, antelope bitterbrush, other perennial forbs, big sagebrush, bluegrass, bluebunch wheatgrass, Thurber's needlegrass

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Simpson and similar soils

Composition: 0 to 4 percent

Slope: 2 to 5 percent

Landform: Fan remnants

Typical vegetation: Big sagebrush, other shrubs, bluebunch wheatgrass, other perennial forbs, bluegrass, antelope bitterbrush, Thurber's needlegrass

Ecological site: R023XY022NV—Well drained fan 12-14 P.Z.

Fluvaquents and similar soils

Composition: 0 to 2 percent

Classification: Mesic Fluvaquents

Slope: 2 to 5 percent

Landform: Drainageways

Typical vegetation: Forest canopy—black cottonwood
Forest understory—other perennial grasses, Fremont's cottonwood, other perennial forbs, inland saltgrass, basin wildrye, beardless wildrye, bluebunch wheatgrass, other shrubs

Ecological site: F023XY034NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

576—Tuledad-Nitpac-Bidrim association**Map Unit Setting**

MLRA: 23

Landscape: Plateau

Elevation: 5,620 to 6,320

Precipitation: 9 to 13 inches
 Air temperature: 44 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Tuledad extremely cobbly loam, 2 to 8 percent slopes—40 percent
 Nitpac very cobbly loam, 4 to 15 percent slopes—30 percent
 Bidrim extremely stony loam, 2 to 8 percent slopes—15 percent
 Tunnison very cobbly clay, 0 to 4 percent slopes—7 percent
 Softscrabble very stony loam, 15 to 30 percent slopes—5 percent
 Fiddler very stony loam, 15 to 30 percent slopes—3 percent

Component Description

Tuledad and similar soils

Landform: Shoulders of plateaus
 Slope: 2 to 8 percent
 Parent material: Residuum weathered from basalt
 Typical vegetation: Thurber's needlegrass, low sagebrush, other perennial forbs, other perennial grasses, Sandberg bluegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 1 inches; extremely cobbly loam
 Layer 2—1 to 3 inches; clay loam
 Layer 3—3 to 15 inches; clay
 Layer 4—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY044NV—Very cobbly claypan

Component Description

Nitpac and similar soils

Landform: Toeslopes of plateaus
 Slope: 4 to 15 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Other perennial forbs, bluegrass, Thurber's needlegrass, Webber needlegrass, low sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1—0 to 8 inches; very cobbly loam
 Layer 2—8 to 21 inches; clay
 Layer 3—21 to 26 inches; gravelly clay loam
 Layer 4—26 to 34 inches; cemented material
 Layer 5—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Duripan: 20 to 40 inches
 Bedrock (paralithic): 24 to 40 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY060NV—Cobbly claypan 8-12 P.Z.

Component Description

Bidrim and similar soils

Landform: Rims
 Slope: 2 to 8 percent
 Parent material: Residuum weathered from basalt
 Typical vegetation: Forest canopy—western juniper
 Forest understory—bluebunch wheatgrass, low sagebrush, antelope bitterbrush, other shrubs, bluegrass, Thurber's needlegrass, other perennial forbs, other perennial grasses
 Site index: Western juniper—12 at an age base of 50 years

Typical profile:

Surface rock fragments: About 18 percent stones

Layer 1—0 to 3 inches; extremely stony loam
 Layer 2—3 to 8 inches; clay loam
 Layer 3—8 to 13 inches; clay
 Layer 4—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: F023XY091NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Tunnison and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 4 percent
 Landform: Depressions
 Typical vegetation: Washoe rubber rabbitbrush, other shrubs, other perennial forbs, Sandberg bluegrass, bottlebrush squirreltail, low sagebrush
 Ecological site: R023XY001NV—Churning clay

Softscrabble and similar soils

Composition: 0 to 5 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Mountain big sagebrush, antelope bitterbrush, other perennial forbs, bluebunch wheatgrass, needlegrass, basin wildrye
 Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Fiddler and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Forest canopy—western juniper
 Forest understory—Thurber's needlegrass, bottlebrush squirreltail, Idaho fescue, Nevada bluegrass, Sandberg bluegrass, bluebunch

wheatgrass, arrowleaf balsamroot, Douglas rabbitbrush, antelope bitterbrush
 Ecological site: F023XY024NV

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

577—Tunnison-Devada-Bidrim association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,460 to 6,370
 Precipitation: 11 to 13 inches
 Air temperature: 44 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Tunnison very cobbly clay, 0 to 8 percent slopes—50 percent
 Devada very cobbly loam, 4 to 15 percent slopes—20 percent
 Bidrim extremely stony loam, 2 to 15 percent slopes—20 percent
 Tuledad extremely cobbly loam, 4 to 8 percent slopes—7 percent
 Nitpac very cobbly loam, 4 to 15 percent slopes—2 percent
 Wylo very stony loam, 4 to 15 percent slopes—1 percent

Component Description

Tunnison and similar soils

Landform: Depressions
 Slope: 0 to 8 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Washoe rubber rabbitbrush, low sagebrush, other shrubs, other perennial forbs, Sandberg bluegrass, bottlebrush squirreltail

Typical profile:

Layer 1—0 to 2 inches; very cobbly clay
 Layer 2—2 to 27 inches; clay
 Layer 3—27 to 30 inches; bedrock
 Layer 4—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches
 Bedrock (lithic): 30 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY001NV—Churning clay

Component Description**Devada and similar soils**

Landform: Summits of plateaus
 Slope: 4 to 15 percent
 Parent material: Residuum derived from volcanic rocks
 Typical vegetation: Low sagebrush, bluebunch wheatgrass, other perennial forbs, bluegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones
 Layer 1—0 to 6 inches; very cobbly loam
 Layer 2—6 to 17 inches; clay
 Layer 3—17 to 27 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 12 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Component Description**Bidrim and similar soils**

Landform: Rims
 Slope: 2 to 15 percent

Parent material: Residuum weathered from basalt
 Typical vegetation: Forest canopy—western juniper
 Forest understory—other perennial grasses, Thurber's needlegrass, bluegrass, bluebunch wheatgrass, other perennial forbs, low sagebrush, antelope bitterbrush, other shrubs
 Site index: Western juniper—12 at an age base of 50 years

Typical profile:

Surface rock fragments: About 18 percent stones
 Layer 1—0 to 3 inches; extremely stony loam
 Layer 2—3 to 8 inches; clay loam
 Layer 3—8 to 13 inches; clay
 Layer 4—13 to 23 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 10 to 14 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: F023XY091NV

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Tuledad and similar soils**

Composition: 0 to 7 percent
 Slope: 4 to 8 percent
 Landform: Shoulders of plateaus
 Typical vegetation: Thurber's needlegrass, Sandberg bluegrass, other perennial grasses, other perennial forbs, low sagebrush
 Ecological site: R023XY044NV—Very cobbly claypan

Nitpac and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Toeslopes of plateaus

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, low sagebrush, Webber needlegrass, bluegrass, other perennial forbs
 Ecological site: R023XY060NV—Cobbly claypan 8-12 P.Z.

Wylo and similar soils

Composition: 0 to 1 percent
 Slope: 4 to 15 percent, southeast to southwest aspects
 Landform: Southeast to southwest aspects on shoulders of plateaus
 Typical vegetation: Lahontan sagebrush, other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Forest land" section
 "Engineering" and "Soil Properties" sections

578—Tunnison-Tuledad complex, 0 to 8 percent slopes

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,190 to 6,170
 Precipitation: 9 to 13 inches
 Air temperature: 45 to 49 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Tunnison very cobbly clay, 0 to 8 percent slopes—45 percent
 Tuledad extremely cobbly loam, 0 to 4 percent slopes—40 percent
 Grassycan very gravelly fine sandy loam, 2 to 8 percent slopes—4 percent
 Bidrim extremely stony loam, 2 to 8 percent slopes—3 percent
 Ceejay very stony loam, 2 to 8 percent slopes—3 percent
 Devada extremely cobbly loam, 4 to 8 percent slopes—3 percent
 Rock outcrop—2 percent

Component Description

Tunnison and similar soils

Landform: Depressions

Slope: 0 to 8 percent
 Parent material: Colluvium and/or residuum weathered from volcanic rock
 Typical vegetation: Sandberg bluegrass, bottlebrush squirreltail, other perennial forbs, Washoe rubber rabbitbrush, low sagebrush, other shrubs

Typical profile:

Layer 1—0 to 2 inches; very cobbly clay
 Layer 2—2 to 27 inches; clay
 Layer 3—27 to 30 inches; bedrock
 Layer 4—30 to 40 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 35 inches
 Bedrock (lithic): 30 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY001NV—Churning clay

Component Description

Tuledad and similar soils

Landform: Shoulders of plateaus
 Slope: 0 to 4 percent
 Parent material: Residuum weathered from basalt
 Typical vegetation: Low sagebrush, other perennial forbs, other perennial grasses, Sandberg bluegrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 1 inches; extremely cobbly loam
 Layer 2—1 to 3 inches; clay loam
 Layer 3—3 to 15 inches; clay
 Layer 4—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY044NV—Very cobbly claypan

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Grassycan and similar soils

Composition: 0 to 4 percent

Slope: 2 to 8 percent

Landform: Summits of plateaus

Typical vegetation: Other perennial forbs, Sandberg bluegrass, low sagebrush, Webber needlegrass, other perennial grasses

Ecological site: R023XY021NV—Scabland 10-14 P.Z.

Bidrim and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Escarpments

Typical vegetation: Forest canopy—western juniper
Forest understory—bluebunch wheatgrass, low sagebrush, bluegrass, Thurber's needlegrass

Ecological site: F023XY091NV

Ceejay and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Backslopes of plateaus

Typical vegetation: Lahontan sagebrush, other perennial forbs, Indian ricegrass, Thurber's needlegrass, Webber needlegrass, other shrubs

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Devada and similar soils

Composition: 0 to 3 percent

Slope: 4 to 8 percent

Landform: Plateaus

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, bluebunch wheatgrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Rock outcrop

Composition: 0 to 2 percent

Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

579—Tusune-Hartig association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,900 to 6,960

Precipitation: 12 to 16 inches

Air temperature: 39 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

Composition

Tusune gravelly ashy loam, 30 to 50 percent slopes—50 percent

Hartig very gravelly sandy loam, 30 to 50 percent slopes—40 percent

Rubble land—4 percent

Hart Camp gravelly loam, 15 to 30 percent slopes—3 percent

Ninemile very cobbly loam, 8 to 30 percent slopes—2 percent

Cumulic Haploxerolls loam, 2 to 8 percent slopes—1 percent

Component Description

Tusune and similar soils

Landform: Northwest to east aspects on footslopes of plateaus

Slope: 30 to 50 percent, northwest to east aspects

Parent material: Residuum and colluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Other shrubs, Idaho fescue, Cusick's bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush

Typical profile:

Surface rock fragments: About 2 percent stones, 2 percent cobbles, 28 percent gravel

Layer 1—0 to 2 inches; gravelly ashy loam

Layer 2—2 to 10 inches; gravelly ashy loam
 Layer 3—10 to 38 inches; very gravelly ashy clay loam
 Layer 4—38 to 48 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 7 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY054NV—Steep north slope

Component Description

Hartig and similar soils

Landform: Southeast to west aspects on backslopes of plateaus
 Slope: 30 to 50 percent, southeast to west aspects
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, basin wildrye, needlegrass

Typical profile:

Layer 1—0 to 10 inches; very gravelly sandy loam
 Layer 2—10 to 21 inches; very gravelly loam
 Layer 3—21 to 42 inches; very gravelly loam
 Layer 4—42 to 52 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY016NV—South slope 12-16 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Rubble land

Composition: 0 to 4 percent
 Landform: Backslopes of escarpments

Hart Camp and similar soils

Composition: 0 to 3 percent
 Slope: 15 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Other perennial forbs, needlegrass, bluebunch wheatgrass, mountain big sagebrush, antelope bitterbrush
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Ninemile and similar soils

Composition: 0 to 2 percent
 Slope: 8 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Low sagebrush, other perennial forbs, bluebunch wheatgrass, other shrubs, Idaho fescue, Thurber's needlegrass, other perennial grasses, bluegrass
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Cumulic Haploxerolls and similar soils

Composition: 0 to 1 percent
 Classification: Fine-loamy, mixed, superactive, frigid Cumulic Haploxerolls
 Slope: 2 to 8 percent
 Landform: Inset fans
 Typical vegetation: Other perennial forbs, basin big sagebrush, basin wildrye, Nevada bluegrass, other perennial grasses
 Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section
 "Engineering" and "Soil Properties" sections

580—Updike-Longdis association

Map Unit Setting

MLRA: 23

Landscape: Bolson
 Elevation: 5,560 to 5,590
 Precipitation: 8 to 10 inches
 Air temperature: 45 to 50 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Updike silt loam, 0 to 2 percent slopes—70 percent
 Longdis silty clay loam, 0 to 2 percent slopes—20 percent
 Updike silt loam, 0 to 2 percent slopes—6 percent
 Playas silty clay, 0 to 1 percent slopes—4 percent

Component Description

Updike and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium and lacustrine deposits
 Typical vegetation: Inland saltgrass, bottlebrush squirreltail, basin wildrye, other perennial forbs, other perennial grasses, other shrubs, black greasewood

Typical profile:

Layer 1—0 to 4 inches; silt loam
 Layer 2—4 to 36 inches; clay
 Layer 3—36 to 60 inches; stratified sandy clay loam to clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Salinity: Saline within 40 inches
 Sodicty: Sodic within 40 inches
 Available water capacity: About 10 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R024XY008NV—Sodic flat 8-10 P.Z.

Component Description

Longdis and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent

Parent material: Alluvium derived from lacustrine sediments

Typical vegetation: Other shrubs, spiny hopsage, big sagebrush, other perennial forbs, other perennial grasses, basin wildrye, bottlebrush squirreltail, black greasewood

Typical profile:

Layer 1—0 to 5 inches; silty clay loam
 Layer 2—5 to 26 inches; clay
 Layer 3—26 to 45 inches; clay
 Layer 4—45 to 61 inches; stratified silty clay loam to clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Sodicty: Sodic within 40 inches
 Available water capacity: About 10 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Updike and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Nevada bluegrass, black greasewood, basin wildrye, inland saltgrass
 Ecological site: R023XY010NV—Saline bottom

Playas

Composition: 0 to 4 percent
 Slope: 0 to 1 percent
 Landform: Playas

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section

"Engineering" and "Soil Properties" sections

581—Updike-Mazuma association

Map Unit Setting

MLRA: 23

Landscape: Bolson

Elevation: 5,560 to 5,570

Precipitation: 4 to 10 inches

Air temperature: 45 to 52 degrees Fahrenheit

Frost-free period: 80 to 130 days

Composition

Updike silt loam, 0 to 2 percent slopes—60 percent

Mazuma fine sandy loam, 0 to 4 percent slopes—25 percent

Longdis silt loam, 0 to 2 percent slopes—7 percent

Skullwak silt loam, 0 to 2 percent slopes—6 percent

Mazuma fine sandy loam, 0 to 4 percent slopes—2 percent

Component Description

Updike and similar soils

Landform: Lake terraces

Slope: 0 to 2 percent

Parent material: Alluvium and lacustrine deposits

Typical vegetation: Inland saltgrass, other shrubs, black greasewood, other perennial grasses, other perennial forbs, basin wildrye, bottlebrush squirreltail

Typical profile:

Layer 1—0 to 4 inches; silt loam

Layer 2—4 to 36 inches; clay

Layer 3—36 to 60 inches; stratified sandy clay loam to clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 10 inches

Present flooding: Rare

Present ponding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R024XY008NV—Sodic flat 8-10 P.Z.

Component Description

Mazuma and similar soils

Landform: Lake terraces

Slope: 0 to 4 percent

Parent material: Alluvium and lacustrine deposits

Typical vegetation: Spiny hopsage, shadscale, bud sagebrush, other shrubs, bottlebrush squirreltail, Indian ricegrass

Typical profile:

Layer 1—0 to 6 inches; fine sandy loam

Layer 2—6 to 62 inches; stratified gravelly coarse sand to silt loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 7 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 2e

Nonirrigated land capability: 7c

Ecological site: R024XY065NV—Gravelly loam 5-8 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Longdis and similar soils

Composition: 0 to 7 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Nevada bluegrass, wildrye, mat muhly, other perennial forbs, silver sagebrush

Ecological site: R023XY003NV—Clay basin

Skullwak and similar soils

Composition: 0 to 6 percent

Slope: 0 to 2 percent

Landform: Basin floors

Typical vegetation: Lemmon's alkaligrass, other perennial grasses, Nevada bluegrass, basin wildrye, inland saltgrass

Ecological site: R023XY002NV—Saline meadow

Mazuma and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Lake terraces

Typical vegetation: Black greasewood, Nevada bluegrass, basin wildrye, inland saltgrass

Ecological site: R023XY010NV—Saline bottom

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

582—Valmy fine sandy loam, 2 to 8 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,510 to 6,190

Precipitation: 7 to 9 inches

Air temperature: 50 to 52 degrees Fahrenheit

Frost-free period: 90 to 110 days

Composition

Valmy fine sandy loam, 2 to 8 percent slopes—90 percent

Nevadash gravelly ashy sandy loam, 2 to 4 percent slopes—4 percent

Couch ashy fine sandy loam, 2 to 4 percent slopes—2 percent

Jesayno ashy silt loam, 0 to 2 percent slopes—2 percent

Zorravista fine sand, 4 to 15 percent slopes—2 percent

Component Description

Valmy and similar soils

Landform: Fan skirts

Slope: 2 to 8 percent

Parent material: Alluvium derived from mixed rocks, loess and volcanic ash

Typical vegetation: Other perennial forbs, other perennial grasses, other shrubs, black greasewood, spiny hopsage, big sagebrush, basin wildrye, bottlebrush squirreltail

Typical profile:

Layer 1—0 to 2 inches; fine sandy loam

Layer 2—2 to 53 inches; stratified very fine sandy loam to gravelly coarse sandy loam

Layer 3—53 to 60 inches; gravelly sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Salinity: Saline within 40 inches

Sodicity: Sodic within 40 inches

Available water capacity: About 6 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Irrigated land capability: 3e

Nonirrigated land capability: 7c

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Nevadash and similar soils

Composition: 0 to 4 percent

Slope: 2 to 4 percent

Landform: Fan aprons, lake plains

Typical vegetation: Big sagebrush, spiny hopsage, other perennial forbs, thickspike wheatgrass, basin wildrye, other shrubs

Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Couch and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Summits of basin-floor remnants

Typical vegetation: Bottlebrush squirreltail, basin wildrye, other perennial grasses, other perennial forbs, big sagebrush, spiny hopsage, black greasewood, other shrubs

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Jesayno and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Basin wildrye, other perennial forbs,
 western wheatgrass, Nevada bluegrass, basin big
 sagebrush
 Ecological site: R023XY005NV—Dry floodplain

Zorravista and similar soils

Composition: 0 to 2 percent
 Slope: 4 to 15 percent
 Landform: Dunes
 Typical vegetation: Indian ricegrass, basin wildrye, other
 perennial forbs, basin big sagebrush, fourwing
 saltbush, spiny hopsage, other shrubs
 Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

583—Warnermount gravelly ashy loam, 4 to 15 percent slopes

Map Unit Setting

MLRA: 21
 Landscape: Mountains
 Elevation: 4,660 to 6,540
 Precipitation: 16 to 27 inches
 Air temperature: 41 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Warnermount gravelly ashy loam, 4 to 15 percent
 slopes—85 percent
 Burningman extremely cobbly ashy sandy loam, cool, 2
 to 8 percent slopes—6 percent
 Pyropatti gravelly ashy loam, cool, 4 to 15 percent
 slopes—5 percent
 Dawgbuffer very gravelly ashy sandy loam, 4 to 15
 percent slopes—3 percent
 Histic Cryaquolls muck, cool, 2 to 8 percent slopes—1
 percent

Component Description

Warnermount warm and similar soils

Landform: Mountain slopes
 Slope: 4 to 15 percent
 Parent material: Volcanic ash and colluvium derived
 from volcanic rock

Typical vegetation: Other perennial forbs, Nevada
 bluegrass, mountain big sagebrush, antelope
 bitterbrush, bluebunch wheatgrass, Idaho fescue

Typical profile:

Surface rock fragments: About 25 percent gravel, 5
 percent cobbles, 5 percent stones
 Layer 1—0 to 2 inches; gravelly ashy loam
 Layer 2—2 to 10 inches; very stony ashy loam
 Layer 3—10 to 33 inches; extremely cobbly ashy clay
 loam
 Layer 4—33 to 43 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 20 to 40
 inches
 Saturated hydraulic conductivity class (root zone):
 Moderately high, (Permeability class: Moderate)
 Available water capacity: About 4 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R021XE201CA—Ashy slope

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions

Burningman and similar soils

Composition: 0 to 6 percent
 Slope: 2 to 8 percent
 Landform: Mountain slopes
 Typical vegetation: Other perennial forbs, low
 sagebrush, Idaho fescue, Thurber's needlegrass,
 bluebunch wheatgrass, prairie Junegrass, antelope
 bitterbrush, western juniper, bluegrass
 Ecological site: R021XE209CA—Ashy claypan

Pyropatti and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—mountain big sagebrush,
 roundleaf snowberry, quaking aspen, slender

wheatgrass, other perennial forbs, other perennial grasses, mountain brome
Ecological site: F021XE233CA

Dawgbuffer and similar soils

Composition: 0 to 3 percent
Slope: 4 to 15 percent
Landform: Mountain slopes
Typical vegetation: Needlegrass, other trees, bluegrass, roundleaf snowberry, curl-leaf mountain mahogany, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, mountain brome
Ecological site: R021XE210CA—Mahogany Savanna

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent
Classification: Ashy, glassy Histic Cryaquolls
Slope: 2 to 8 percent
Landform: Mountain slopes
Typical vegetation: Other perennial grasses, rush, tufted hairgrass, sedge, other perennial forbs
Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Engineering" and "Soil Properties" sections

584—Warnermount-Burningman association

Map Unit Setting

MLRA: 21
Landscape: Mountains
Elevation: 5,150 to 6,320
Precipitation: 16 to 27 inches
Air temperature: 41 to 45 degrees Fahrenheit
Frost-free period: 50 to 80 days

Composition

Warnermount gravelly ashy loam, 8 to 30 percent slopes—60 percent
Burningman extremely cobbly ashy sandy loam, cool, 4 to 15 percent slopes—30 percent
Lithic Argixerolls very gravelly ashy loam, cool, 4 to 30 percent slopes—3 percent
Pyropatti gravelly ashy loam, cool, 8 to 30 percent slopes—3 percent

Dismalswamp ashy loam, cool, 0 to 8 percent slopes—2 percent
Rock outcrop, 30 to 75 percent slopes—2 percent

Component Description

Warnermount and similar soils

Landform: Mountain slopes
Slope: 8 to 30 percent
Parent material: Volcanic ash and colluvium derived from volcanic rock
Typical vegetation: Bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, mountain brome, antelope bitterbrush, needlegrass

Typical profile:

Surface rock fragments: About 25 percent gravel, 5 percent cobbles, 5 percent stones
Layer 1—0 to 2 inches; gravelly ashy loam
Layer 2—2 to 10 inches; very stony ashy loam
Layer 3—10 to 33 inches; extremely cobbly ashy clay loam
Layer 4—33 to 43 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderate)
Available water capacity: About 4 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e
Ecological site: R021XE217CA—Loamy slope

Component Description

Burningman and similar soils

Landform: Mountain slopes
Slope: 4 to 15 percent
Parent material: Volcanic ash, colluvium derived from volcanic rock and residuum weathered from volcanic rock
Typical vegetation: Antelope bitterbrush, western juniper, low sagebrush, bluegrass, prairie Junegrass, Idaho fescue, bluebunch wheatgrass, other perennial forbs, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 20 percent gravel, 25 percent cobbles, 10 percent stones
 Layer 1—0 to 3 inches; extremely cobbly ashy sandy loam
 Layer 2—3 to 8 inches; cobbly ashy loam
 Layer 3—8 to 18 inches; cobbly clay
 Layer 4—18 to 28 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s
 Ecological site: R021XE209CA—Ashy claypan

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Lithic Argixerolls and similar soils**

Composition: 0 to 3 percent
 Classification: Ashy-skeletal, glassy, frigid Lithic Argixerolls
 Slope: 4 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—western juniper
 Forest understory—antelope bitterbrush, other shrubs, western juniper, mountain big sagebrush, other perennial forbs, other perennial grasses, Thurber's needlegrass, Sandberg bluegrass
 Ecological site: F021XE237CA

Pyropatti and similar soils

Composition: 0 to 3 percent
 Slope: 8 to 30 percent
 Landform: Mountain slopes
 Typical vegetation: Forest canopy—quaking aspen
 Forest understory—mountain brome, slender wheatgrass, other perennial grasses, other perennial forbs, mountain big sagebrush, quaking aspen, roundleaf snowberry

Ecological site: F021XE233CA

Dismalswamp and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 8 percent
 Landform: Intermontane basins
 Typical vegetation: Tufted hairgrass, willow, silver sagebrush, Nebraska sedge, meadow barley, sedge, other perennial forbs, Baltic rush
 Ecological site: R021XE208CA—Semi-wet meadow

Rock outcrop

Composition: 0 to 2 percent
 Slope: 30 to 75 percent
 Landform: Backslopes of escarpments

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

585—Warnermount-Crazybird association**Map Unit Setting**

MLRA: 21
 Landscape: Mountains
 Elevation: 4,830 to 7,750
 Precipitation: 16 to 30 inches
 Air temperature: 41 to 45 degrees Fahrenheit
 Frost-free period: 50 to 80 days

Composition

Warnermount gravelly ashy loam, 15 to 50 percent slopes—55 percent
 Crazybird very gravelly ashy sandy loam, 30 to 50 percent slopes—30 percent
 Seshah gravelly ashy loam, 15 to 50 percent slopes—3 percent
 Welltomas very gravelly ashy loam, cool, 4 to 50 percent slopes—3 percent
 Lyonman gravelly ashy sandy loam, 15 to 50 percent slopes—2 percent
 Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—1 percent
 Histic Cryaquolls muck, cool, 2 to 8 percent slopes—1 percent
 Lithic Argixerolls very gravelly ashy loam, cool, 4 to 30 percent slopes—1 percent
 Pyropatti gravelly ashy loam, cool, 4 to 30 percent slopes—1 percent
 Rock outcrop, 30 to 75 percent slopes—1 percent

Vitrandic Argicryolls very gravelly ashy sandy loam, cool,
15 to 50 percent slopes—1 percent

Vitrandic Haploxerolls extremely cobbly ashy loam, cool,
0 to 8 percent slopes—1 percent

Component Description

Warnermount and similar soils

Landform: Mountain slopes

Slope: 15 to 50 percent

Parent material: Volcanic ash and colluvium derived
from volcanic rock

Typical vegetation: Mountain brome, needlegrass,
bluebunch wheatgrass, other perennial forbs,
mountain big sagebrush, bluegrass, antelope
bitterbrush

Typical profile:

Surface rock fragments: About 25 percent gravel, 5
percent cobbles, 5 percent stones

Layer 1—0 to 2 inches; gravelly ashy loam

Layer 2—2 to 10 inches; very stony ashy loam

Layer 3—10 to 33 inches; extremely cobbly ashy clay
loam

Layer 4—33 to 43 inches; bedrock

See “Chemical Soil Properties” table and the “Physical
Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 39
inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R021XE217CA—Loamy slope

Component Description

Crazybird and similar soils

Landform: Mountain slopes

Slope: 30 to 50 percent

Parent material: Volcanic ash, colluvium derived from
pyroclastic rock and residuum weathered from
pyroclastic rock

Typical vegetation: Other trees, mountain big sagebrush,
other shrubs, antelope bitterbrush, other perennial
forbs, bluebunch wheatgrass, needlegrass, bluegrass

Typical profile:

Surface rock fragments: About 35 percent gravel, 10
percent cobbles, 1 percent stones

Layer 1—0 to 3 inches; very gravelly ashy sandy loam

Layer 2—3 to 15 inches; very gravelly ashy loam

Layer 3—15 to 25 inches; bedrock

See “Chemical Soil Properties” table and the “Physical
Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (paralithic): 14 to 20
inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R021XE205CA—South slope

Typical soil descriptions including ranges in
characteristics are in the "Classification of the Soils"
section.

Contrasting Inclusions

Sesdah and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Mountain big sagebrush, other
perennial forbs, bluebunch wheatgrass, Nevada
bluegrass, Idaho fescue

Ecological site: R021XE223CA—Ashy loamy slope

Welltomas and similar soils

Composition: 0 to 3 percent

Slope: 4 to 50 percent

Landform: Mountain slopes

Typical vegetation: Low sagebrush, other perennial
forbs, bluebunch wheatgrass, bluegrass, western
juniper, other shrubs

Ecological site: R021XE214CA—Claypan

Lyonman and similar soils

Composition: 0 to 2 percent

Slope: 15 to 50 percent

Landform: Backslopes of mountains

Typical vegetation: Forest canopy—ponderosa pine

Forest understory—roundleaf snowberry, ponderosa pine, other perennial forbs, other perennial grasses, other shrubs, needlegrass, Wheeler bluegrass, Ross' sedge

Ecological site: F021XE230CA

Dawgbuffer and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Needlegrass, roundleaf snowberry,

bluegrass, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, curl-leaf mountain mahogany, mountain brome, other trees

Ecological site: R021XE210CA—Mahogany Savanna

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy, glassy Histic Cryaquolls

Slope: 2 to 8 percent

Landform: Mountain slopes

Typical vegetation: Other perennial forbs, other perennial grasses, rush, tufted hairgrass, sedge

Ecological site: R021XE226CA—Seep

Lithic Argixerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—western juniper

Forest understory—Thurber's needlegrass, Sandberg bluegrass, other shrubs, other perennial forbs, mountain big sagebrush, western juniper, other perennial grasses, antelope bitterbrush

Ecological site: F021XE237CA

Pyropatti cool and similar soils

Composition: 0 to 1 percent

Slope: 4 to 30 percent

Landform: Mountain slopes

Typical vegetation: Roundleaf snowberry, quaking

aspen, mountain big sagebrush, mountain brome, other perennial forbs

Ecological site: R021XE216CA—Aspen thicket

Rock outcrop

Composition: 0 to 1 percent

Slope: 30 to 75 percent

Landform: Backslopes of escarpments

Vitrandic Argicryolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy Vitrandic Argicryolls

Slope: 15 to 50 percent

Landform: Mountain slopes

Typical vegetation: Mountain big sagebrush, mountain

brome, bitter cherry, snowberry

Ecological site: R021XE215CA—Prunus pocket

Vitrandic Haploxerolls and similar soils

Composition: 0 to 1 percent

Classification: Ashy-skeletal, glassy, frigid Vitrandic Haploxerolls

Slope: 0 to 8 percent

Landform: Mountain slopes

Typical vegetation: Forest canopy—black cottonwood

Forest understory—black cottonwood, other perennial forbs, other perennial grasses, Woods' rose, willow, redosier dogwood, other shrubs, other annual forbs, Kentucky bluegrass, slender wheatgrass

Ecological site: F021XE238CA

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Forest land" section

"Engineering" and "Soil Properties" sections

587—Weezweed-Emagert-Wetvit association**Map Unit Setting**

MLRA: 23

Landscape: Intermontane basin

Elevation: 4,860 to 6,140

Precipitation: 9 to 16 inches

Air temperature: 45 to 46 degrees Fahrenheit

Frost-free period: 80 to 100 days

Composition

Weezweed ashy loam, 0 to 2 percent slopes—50 percent

Emagert ashy loam, 0 to 2 percent slopes—20 percent

Wetvit ashy fine sandy loam, 0 to 2 percent slopes—15 percent

Jesayno ashy silt loam, 0 to 2 percent slopes—7 percent

Macnot gravelly ashy sandy loam, 0 to 4 percent slopes—5 percent
 Couch ashy fine sandy loam, 0 to 2 percent slopes—2 percent
 Crutcher ashy very fine sandy loam, 0 to 2 percent slopes—1 percent

Component Description

Weezweed and similar soils

Landform: Stream terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Basin big sagebrush, Nevada bluegrass, western wheatgrass, basin wildrye, other perennial forbs

Typical profile:

Layer 1—0 to 16 inches; ashy loam
 Layer 2—16 to 60 inches; stratified gravelly loamy sand to silty clay loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 12 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Irrigated land capability: 2e
 Nonirrigated land capability: 6e
 Ecological site: R023XY005NV—Dry floodplain

Component Description

Emagert and similar soils

Landform: Stream terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Other perennial grasses, Nevada bluegrass, basin wildrye, other perennial forbs, basin big sagebrush

Typical profile:

Layer 1—0 to 14 inches; ashy loam
 Layer 2—14 to 38 inches; stratified sandy loam to silty clay loam
 Layer 3—38 to 60 inches; stratified gravelly loamy sand to silty clay loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 12 inches
 Present flooding: Rare
 Present ponding: None
 Water table: Present
 Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6e
 Ecological site: R023XY009NV—Loamy bottom 8-12 P.Z.

Component Description

Wetvit and similar soils

Landform: Flood plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks
 Typical vegetation: Other perennial grasses, other perennial forbs, Nevada bluegrass, creeping wildrye, sedge

Typical profile:

Layer 1—0 to 16 inches; ashy fine sandy loam
 Layer 2—16 to 44 inches; stratified ashy sandy loam to ashy clay loam
 Layer 3—44 to 60 inches; stratified gravelly ashy loamy sand to ashy clay loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Very high
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 11 inches
 Present flooding: Frequent
 Present ponding: None
 Water table: Present
 Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 5w
 Ecological site: R023XY089NV—Wet meadow 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Jesayno and similar soils

Composition: 0 to 7 percent
 Slope: 0 to 2 percent
 Landform: Inset fans
 Typical vegetation: Western wheatgrass, Nevada bluegrass, basin big sagebrush, basin wildrye, other perennial forbs
 Ecological site: R023XY005NV—Dry floodplain

Macnot and similar soils

Composition: 0 to 5 percent
 Slope: 0 to 4 percent
 Landform: Alluvial fans
 Typical vegetation: Thickspike wheatgrass, other perennial forbs, spiny hopsage, other shrubs, big sagebrush, basin wildrye
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Couch and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Summits of basin-floor remnants
 Typical vegetation: Bottlebrush squirreltail, other shrubs, other perennial grasses, other perennial forbs, big sagebrush, spiny hopsage, black greasewood, basin wildrye
 Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Crutcher and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 2 percent
 Landform: Alluvial flats
 Typical vegetation: Inland saltgrass, basin wildrye, Nevada bluegrass, black greasewood
 Ecological site: R023XY010NV—Saline bottom

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

588—Weimer clay

Map Unit Setting

MLRA: 23
 Landscape: Basin
 Elevation: 4,680 to 6,570
 Precipitation: 12 to 14 inches
 Air temperature: 41 to 45 degrees Fahrenheit
 Frost-free period: 60 to 80 days

Composition

Weimer clay, 0 to 2 percent slopes—85 percent
 Boulder Lake silty clay, 0 to 2 percent slopes—8 percent
 Grimlake cobbly clay, 0 to 2 percent slopes—6 percent
 Macyflet silt loam, 0 to 2 percent slopes—1 percent

Component Description

Weimer and similar soils

Landform: Lake plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock and lacustrine deposits
 Typical vegetation: Other annual forbs, povertyweed, mat muhly, other perennial forbs, other perennial grasses

Typical profile:

Layer 1—0 to 7 inches; clay
 Layer 2—7 to 48 inches; clay
 Layer 3—48 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Negligible
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 9 inches
 Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Nonirrigated land capability: 6w
 Ecological site: R023XY023NV—Wet clay basin

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Boulder Lake and similar soils

Composition: 0 to 8 percent
 Slope: 0 to 2 percent
 Landform: Lake terraces
 Typical vegetation: Wildrye, mat muhly, Nevada bluegrass, silver sagebrush, other perennial forbs
 Ecological site: R023XY003NV—Clay basin

Grimlake and similar soils

Composition: 0 to 6 percent
 Slope: 0 to 2 percent
 Landform: Lake plain alluvial flats
 Typical vegetation: Other perennial forbs, sedge, Nevada bluegrass, other perennial grasses
 Ecological site: R023XY013NV—Dry meadow

Macyflet and similar soils

Composition: 0 to 1 percent
 Slope: 0 to 2 percent
 Landform: Lake plains
 Typical vegetation: Basin wildrye, needlegrass, early sagebrush, other perennial forbs, Nevada bluegrass, Cusick's bluegrass
 Ecological site: R023XY090NV—Clay plain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

589—Weimer-Boulder Lake association

Map Unit Setting

MLRA: 23
 Landscape: Bolson
 Elevation: 5,260 to 6,530
 Precipitation: 10 to 16 inches
 Air temperature: 41 to 45 degrees Fahrenheit
 Frost-free period: 60 to 90 days

Composition

Weimer clay, 0 to 2 percent slopes—70 percent
 Boulder Lake silty clay, 0 to 2 percent slopes—20 percent
 Welch loam, 0 to 4 percent slopes—8 percent
 Macyflet silt loam, 0 to 2 percent slopes—2 percent

Component Description

Weimer and similar soils

Landform: Lake plains
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock and lacustrine deposits
 Typical vegetation: Povertyweed, other annual forbs, other perennial grasses, mat muhly, other perennial forbs

Typical profile:

Layer 1—0 to 7 inches; clay
 Layer 2—7 to 48 inches; clay
 Layer 3—48 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Negligible
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 9 inches
 Present flooding: None
 Present ponding: Frequent
 Water table: Present
 Natural drainage class: Poorly drained

Interpretive Groups

Nonirrigated land capability: 6w
 Ecological site: R023XY023NV—Wet clay basin

Component Description

Boulder Lake and similar soils

Landform: Lake terraces
 Slope: 0 to 2 percent
 Parent material: Alluvium derived from volcanic rock
 Typical vegetation: Other perennial forbs, mat muhly, silver sagebrush, Nevada bluegrass, wildrye

Typical profile:

Layer 1—0 to 2 inches; silty clay
 Layer 2—2 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Negligible
Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)
Available water capacity: About 9 inches
Present flooding: None
Present ponding: Frequent
Water table: Present
Natural drainage class: Poorly drained

Interpretive Groups

Irrigated land capability: 6w
Nonirrigated land capability: 6w
Ecological site: R023XY003NV—Clay basin

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Welch and similar soils

Composition: 0 to 8 percent
Slope: 0 to 4 percent
Landform: Drainageways
Typical vegetation: Sedge, Nevada bluegrass, other perennial grasses, other perennial forbs
Ecological site: R023XY013NV—Dry meadow

Macyflet and similar soils

Composition: 0 to 2 percent
Slope: 0 to 2 percent
Landform: Lake plains
Typical vegetation: Needlegrass, basin wildrye, Cusick's bluegrass, Nevada bluegrass, other perennial forbs, early sagebrush
Ecological site: R023XY090NV—Clay plain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
"Range" section
"Crops and Pasture" section
"Engineering" and "Soil Properties" sections

590—Weimer-Grimlake association

Map Unit Setting

MLRA: 23

Landscape: Basin
Elevation: 5,180 to 7,100
Precipitation: 12 to 14 inches
Air temperature: 41 to 45 degrees Fahrenheit
Frost-free period: 60 to 80 days

Composition

Weimer clay, 0 to 2 percent slopes—55 percent
Grimlake cobbly clay, 0 to 2 percent slopes—30 percent
Aeric Epiaquents silt loam, 0 to 1 percent slopes—5 percent
Boulder Lake silty clay, 0 to 2 percent slopes—5 percent
Devada very cobbly loam, 2 to 8 percent slopes—3 percent
Macyflet silt loam, 0 to 2 percent slopes—2 percent

Component Description

Weimer and similar soils

Landform: Lake plains
Slope: 0 to 2 percent
Parent material: Alluvium derived from volcanic rock and lacustrine deposits
Typical vegetation: Mat muhly, povertyweed, other annual forbs, other perennial forbs, other perennial grasses

Typical profile:

Layer 1—0 to 7 inches; clay
Layer 2—7 to 48 inches; clay
Layer 3—48 to 60 inches; clay

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Negligible
Saturated hydraulic conductivity class (root zone): Low,
(Permeability class: Very slow)
Available water capacity: About 9 inches
Present flooding: None
Present ponding: Frequent
Water table: Present
Natural drainage class: Poorly drained

Interpretive Groups

Nonirrigated land capability: 6w
Ecological site: R023XY023NV—Wet clay basin

Component Description

Grimlake and similar soils

Landform: Lake plains
Slope: 0 to 2 percent
Parent material: Alluvium derived from volcanic rocks

Typical vegetation: Nevada bluegrass, other perennial forbs, other perennial grasses, sedge

Typical profile:

Layer 1—0 to 2 inches; cobbly clay

Layer 2—2 to 5 inches; clay

Layer 3—5 to 14 inches; clay

Layer 4—14 to 32 inches; clay

Layer 5—32 to 43 inches; sandy clay loam

Layer 6—43 to 60 inches; very cobbly clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Medium

Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)

Available water capacity: About 8 inches

Present flooding: None

Present ponding: None

Water table: Present

Natural drainage class: Moderately well drained

Interpretive Groups

Nonirrigated land capability: 6s

Ecological site: R023XY013NV—Dry meadow

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Aeric Epiaquents and similar soils

Composition: 0 to 5 percent

Classification: Frigid Aeric Epiaquents

Slope: 0 to 1 percent

Landform: Lake plains

Typical vegetation: Other perennial grasses, mat muhly, povertyweed, other annual forbs, other perennial forbs

Ecological site: R023XY023NV—Wet clay basin

Boulder Lake and similar soils

Composition: 0 to 5 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Wildrye, other perennial forbs, silver sagebrush, mat muhly, Nevada bluegrass

Ecological site: R023XY003NV—Clay basin

Devada and similar soils

Composition: 0 to 3 percent

Slope: 2 to 8 percent

Landform: Summits of plateaus

Typical vegetation: Bluegrass, low sagebrush, Thurber's needlegrass, bluebunch wheatgrass, other perennial forbs

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Macyflet and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Alluvial flats

Typical vegetation: Needlegrass, basin wildrye, Cusick's bluegrass, early sagebrush, Nevada bluegrass, other perennial forbs

Ecological site: R023XY090NV—Clay plain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

591—Welch clay loam, 0 to 4 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Intermontane basin

Elevation: 5,000 to 5,550

Precipitation: 9 to 16 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 60 to 100 days

Composition

Welch clay loam, 0 to 4 percent slopes—90 percent

Welch loam, 0 to 2 percent slopes—8 percent

Cumulic Haploxerolls fine sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Welch and similar soils

Landform: Flood plains

Slope: 0 to 4 percent

Parent material: Alluvium derived from pyroclastic and extrusive volcanic rocks

Typical vegetation: Sedge, meadow barley, rush, bluegrass, other perennial grasses, other perennial forbs, tufted hairgrass

Typical profile:

Layer 1—0 to 5 inches; clay loam

Layer 2—5 to 60 inches; stratified sandy loam to silty clay loam

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 11 inches

Present flooding: Occasional

Present ponding: None

Water table: Present

Natural drainage class: Very poorly drained

Interpretive Groups

Nonirrigated land capability: 5w

Ecological site: R023XY025NV—Wet meadow 14+ P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Welch and similar soils**

Composition: 0 to 8 percent

Slope: 0 to 2 percent

Landform: Drainageways

Typical vegetation: Nevada bluegrass, sedge, other perennial grasses, other perennial forbs

Ecological site: R023XY013NV—Dry meadow

Cumulic Haploxerolls and similar soils

Composition: 0 to 2 percent

Classification: Fine-loamy, mixed, superactive, frigid
Cumulic Haploxerolls

Slope: 0 to 2 percent

Landform: Stream terraces

Typical vegetation: Basin big sagebrush, Nevada bluegrass, western wheatgrass, other perennial forbs, basin wildrye

Ecological site: R023XY005NV—Dry floodplain

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

592—Welltomas-Hartner-Rock outcrop association**Map Unit Setting**

MLRA: 21

Landscape: Mountains

Elevation: 6,140 to 7,020

Precipitation: 12 to 26 inches

Air temperature: 41 to 45 degrees Fahrenheit

Frost-free period: 50 to 80 days

Composition

Welltomas very gravelly ashy loam, cool, 4 to 30 percent slopes—50 percent

Hartner very gravelly ashy sandy loam, 4 to 30 percent slopes—25 percent

Rock outcrop, 30 to 75 percent slopes—10 percent

Dawgbuffer very gravelly ashy sandy loam, 4 to 30 percent slopes—4 percent

Lyonman gravelly ashy sandy loam, 4 to 30 percent slopes—3 percent

Warnermount gravelly ashy loam, 4 to 30 percent slopes—3 percent

Lithic Argixerolls very gravelly ashy loam, cool, 4 to 30 percent slopes—2 percent

Lithic Argixerolls very gravelly ashy loam, cool, 4 to 30 percent slopes—2 percent

Histic Cryaquolls muck, cool, 4 to 30 percent slopes—1 percent

Component Description**Welltomas and similar soils**

Landform: Mountain slopes

Slope: 4 to 30 percent

Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock

Typical vegetation: Western juniper, other shrubs, bluegrass, bluebunch wheatgrass, other perennial forbs, low sagebrush

Typical profile:

Surface rock fragments: About 45 percent gravel, 5 percent cobbles, 5 percent stones

Layer 1—0 to 2 inches; very gravelly ashy loam

Layer 2—2 to 7 inches; very gravelly ashy clay loam

Layer 3—7 to 17 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 7 to 14 inches

Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)
Available water capacity: About 1.1 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R021XE214CA—Claypan

Component Description

Hartner and similar soils

Landform: Backslopes of mountains
Slope: 4 to 30 percent
Parent material: Volcanic ash, colluvium derived from pyroclastic rock and residuum weathered from pyroclastic rock
Typical vegetation: Other perennial grasses, purple sage, bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, rubber rabbitbrush, western juniper, antelope bitterbrush, other shrubs, Indian ricegrass, needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 2 percent cobbles, 28 percent gravel
Layer 1—0 to 1 inches; very gravelly ashy sandy loam
Layer 2—1 to 4 inches; gravelly ashy sandy loam
Layer 3—4 to 14 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (paralithic): 4 to 10 inches
Saturated hydraulic conductivity class (root zone):
Moderately high, (Permeability class: Moderate)
Available water capacity: About 0.6 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
Ecological site: R021XE204CA—Eroded slope

Component Description

Rock outcrop

Landform: Backslopes of escarpments

Slope: 30 to 75 percent

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Dawgbuffer and similar soils

Composition: 0 to 4 percent
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Other trees, curl-leaf mountain mahogany, mountain big sagebrush, other perennial forbs, bluebunch wheatgrass, needlegrass, mountain brome, bluegrass, roundleaf snowberry
Ecological site: R021XE210CA—Mahogany Savanna

Lyonman and similar soils

Composition: 0 to 3 percent
Slope: 4 to 30 percent
Landform: Backslopes of mountains
Typical vegetation: Forest canopy—ponderosa pine
Forest understory—Ross' sedge, needlegrass, other shrubs, other perennial forbs, roundleaf snowberry, other perennial grasses, Wheeler bluegrass, ponderosa pine
Ecological site: F021XE230CA

Warnermount and similar soils

Composition: 0 to 3 percent
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Bluebunch wheatgrass, other perennial forbs, mountain big sagebrush, antelope bitterbrush, needlegrass, mountain brome, bluegrass
Ecological site: R021XE217CA—Loamy slope

Lithic Argixerolls and similar soils

Composition: 0 to 2 percent
Classification: Ashy-skeletal, glassy, frigid Lithic Argixerolls
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Forest canopy—western juniper
Forest understory—other perennial grasses, Thurber's needlegrass, other shrubs, antelope bitterbrush, western juniper, mountain big sagebrush, other perennial forbs, Sandberg bluegrass
Ecological site: F021XE237CA

Lithic Argixerolls and similar soils

Composition: 0 to 2 percent

Classification: Ashy-skeletal, glassy, frigid Lithic
Argixerolls
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Idaho fescue, Nevada bluegrass,
bluebunch wheatgrass, other perennial forbs,
mountain big sagebrush
Ecological site: R021XE223CA—Ashy loamy slope

Histic Cryaquolls and similar soils

Composition: 0 to 1 percent
Classification: Ashy, glassy Histic Cryaquolls
Slope: 4 to 30 percent
Landform: Mountain slopes
Typical vegetation: Sedge, tufted hairgrass, rush, other
perennial grasses, other perennial forbs
Ecological site: R021XE226CA—Seep

Management

For information about managing this map unit, see the
following sections and associated tables in this
publication:
"Range" section
"Forest land" section
"Engineering" and "Soil Properties" sections

593—Wylo-Bucklake-Rock outcrop association

Map Unit Setting

MLRA: 23
Landscape: Plateau
Elevation: 5,140 to 6,840
Precipitation: 10 to 12 inches
Air temperature: 46 to 49 degrees Fahrenheit
Frost-free period: 70 to 95 days

Composition

Wylo very stony loam, 8 to 30 percent slopes—45
percent
Bucklake very stony loam, 15 to 50 percent slopes—30
percent
Rock outcrop—15 percent
Ceejay gravelly loam, 8 to 30 percent slopes—4 percent
Old Camp very stony loam, 30 to 50 percent slopes—4
percent
Halvert gravelly loam, 2 to 8 percent slopes—2 percent

Component Description

Wylo and similar soils

Landform: Plateaus

Slope: 8 to 30 percent
Parent material: Residuum and colluvium derived from
volcanic rocks
Typical vegetation: Bluegrass, Thurber's needlegrass,
bluebunch wheatgrass, other perennial forbs,
Lahontan sagebrush

Typical profile:

Surface rock fragments: About 4 percent fine gravel, 20
percent gravel, 5 percent cobbles, 10 percent stones
Layer 1—0 to 4 inches; very stony loam
Layer 2—4 to 15 inches; cobbly clay
Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
Depth to restrictive feature: Bedrock (lithic): 14 to 20
inches
Saturated hydraulic conductivity class (root zone):
Moderately low, (Permeability class: Slow)
Available water capacity: About 2 inches
Present flooding: None
Present ponding: None
Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Bucklake and similar soils

Landform: Plateaus
Slope: 15 to 50 percent
Parent material: Colluvium derived from volcanic rock
and residuum weathered from volcanic rock
Typical vegetation: Wyoming big sagebrush, bluebunch
wheatgrass, antelope bitterbrush, basin wildrye,
Thurber's needlegrass

Typical profile:

Surface rock fragments: About 2 percent fine gravel, 11
percent gravel, 14 percent cobbles, 23 percent
stones
Layer 1—0 to 8 inches; very stony loam
Layer 2—8 to 12 inches; gravelly clay loam
Layer 3—12 to 24 inches; gravelly clay
Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical
Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Component Description**Rock outcrop**

Landform: Ridges

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Ceejay and similar soils**

Composition: 0 to 4 percent
 Slope: 8 to 30 percent
 Landform: Backslopes of plateaus
 Typical vegetation: Lahontan sagebrush, Indian ricegrass, Thurber's needlegrass, Webber needlegrass, other shrubs, other perennial forbs
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Old Camp and similar soils

Composition: 0 to 4 percent
 Slope: 30 to 50 percent
 Landform: Plateaus
 Typical vegetation: Other perennial grasses, other perennial forbs, Wyoming big sagebrush, other shrubs, Indian ricegrass, Thurber's needlegrass
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Halvert and similar soils

Composition: 0 to 2 percent
 Slope: 2 to 8 percent
 Landform: Plateaus
 Typical vegetation: Lahontan sagebrush, Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

594—Wylo-Chalco association**Map Unit Setting**

MLRA: 23
 Landscape: Hills
 Elevation: 5,540 to 6,380
 Precipitation: 8 to 12 inches
 Air temperature: 46 to 54 degrees Fahrenheit
 Frost-free period: 60 to 120 days

Composition

Wylo very stony loam, 4 to 15 percent slopes—60 percent
 Chalco very gravelly loam, 15 to 30 percent slopes—25 percent
 Dumps fragmental material—6 percent
 Jaybee very cobbly sandy loam, 4 to 15 percent slopes—5 percent
 Pickup very stony loam, 15 to 50 percent slopes—4 percent

Component Description**Wylo and similar soils**

Landform: Southeast to southwest aspects on shoulders of hills
 Slope: 4 to 15 percent, southeast to southwest aspects
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Lahontan sagebrush, other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 5 percent stones
 Layer 1—0 to 4 inches; very stony loam
 Layer 2—4 to 15 inches; cobbly clay
 Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description**Chalco and similar soils**

Landform: Pediments
 Slope: 15 to 30 percent
 Parent material: Residuum and colluvium derived from lake-laid tuff
 Typical vegetation: Other perennial forbs, Webber needlegrass, Thurber's needlegrass, Indian ricegrass, Lahontan sagebrush, other shrubs

Typical profile:

Layer 1—0 to 3 inches; very gravelly loam
 Layer 2—3 to 15 inches; clay
 Layer 3—15 to 30 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Low, (Permeability class: Very slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Dumps mine**

Composition: 0 to 6 percent
 Landform: Hills

Jaybee and similar soils

Composition: 0 to 5 percent
 Slope: 4 to 15 percent
 Landform: Hills
 Typical vegetation: Webber needlegrass, other shrubs, other perennial forbs, Lahontan sagebrush, Thurber's needlegrass, Indian ricegrass
 Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Pickup and similar soils

Composition: 0 to 4 percent
 Slope: 15 to 50 percent
 Landform: Pediments
 Typical vegetation: Bluegrass, other perennial forbs, Lahontan sagebrush, bluebunch wheatgrass, Thurber's needlegrass
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

595—Wylo-Pickup association**Map Unit Setting**

MLRA: 23
 Landscape: Hills
 Elevation: 4,640 to 6,500
 Precipitation: 8 to 12 inches
 Air temperature: 45 to 54 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Wylo very stony loam, 8 to 30 percent slopes—60 percent
 Pickup very stony loam, 15 to 30 percent slopes—25 percent
 Ceejay very stony loam, 4 to 30 percent slopes—6 percent
 Chalco very gravelly loam, 8 to 30 percent slopes—5 percent
 Saraph very gravelly ashy sandy loam, 15 to 50 percent slopes—3 percent

Rock outcrop—1 percent

Component Description

Wylo and similar soils

Landform: Hills

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Lahontan sagebrush, bluegrass, other perennial forbs, Thurber's needlegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 4 percent fine gravel, 20 percent gravel, 5 percent cobbles, 10 percent stones

Layer 1—0 to 4 inches; very stony loam

Layer 2—4 to 15 inches; cobbly clay

Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Pickup and similar soils

Landform: Hills

Slope: 15 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 7 percent fine gravel, 29 percent gravel, 10 percent cobbles, 13 percent stones

Layer 1—0 to 8 inches; very stony loam

Layer 2—8 to 34 inches; very gravelly clay

Layer 3—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Ceejay and similar soils

Composition: 0 to 6 percent

Slope: 4 to 30 percent

Landform: Hills

Typical vegetation: Lahontan sagebrush, other perennial forbs, other shrubs, Webber needlegrass, Thurber's needlegrass, Indian ricegrass

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Chalco and similar soils

Composition: 0 to 5 percent

Slope: 8 to 30 percent

Landform: Pediments

Typical vegetation: Webber needlegrass, Thurber's needlegrass, Indian ricegrass, other shrubs, other perennial forbs, Lahontan sagebrush

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Saraph and similar soils

Composition: 0 to 3 percent

Slope: 15 to 50 percent

Landform: Summits of rock pediments

Typical vegetation: Other perennial grasses, Thurber's needlegrass, Indian ricegrass, other perennial forbs, other shrubs, Wyoming big sagebrush

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Rock outcrop

Composition: 0 to 1 percent

Landform: Ridges

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

596—Wylo-Pickup-Bucklake association

Map Unit Setting

MLRA: 23

Landscape: Plateau

Elevation: 5,080 to 6,300

Precipitation: 8 to 12 inches

Air temperature: 45 to 54 degrees Fahrenheit

Frost-free period: 50 to 100 days

Composition

Wylo very stony loam, 8 to 30 percent slopes—40 percent

Pickup very stony loam, 30 to 50 percent slopes—30 percent

Bucklake very stony loam, 30 to 50 percent slopes—15 percent

Reywat very stony loam, 30 to 50 percent slopes—9 percent

Rock outcrop—4 percent

Softscrabble very stony loam, 30 to 50 percent slopes—2 percent

Component Description

Wylo and similar soils

Landform: Plateaus

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Lahontan sagebrush, bluegrass, bluebunch wheatgrass, Thurber's needlegrass, other perennial forbs

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 4 inches; very stony loam

Layer 2—4 to 15 inches; cobbly clay

Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Pickup and similar soils

Landform: West to east aspects on backslopes of plateaus

Slope: 30 to 50 percent, west to east aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 8 inches; very stony loam

Layer 2—8 to 34 inches; very gravelly clay

Layer 3—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Bucklake and similar soils

Landform: West to east aspects on backslopes of plateaus

Slope: 30 to 50 percent, west to east aspects

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, basin wildrye, antelope bitterbrush, Wyoming big sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 23 percent stones

Layer 1—0 to 9 inches; very stony loam

Layer 2—9 to 13 inches; gravelly clay loam

Layer 3—13 to 24 inches; gravelly clay

Layer 4—24 to 34 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7e

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Reywat and similar soils

Composition: 0 to 9 percent

Slope: 30 to 50 percent, west to east aspects

Landform: West to east aspects on backslopes of plateaus

Typical vegetation: Thurber's needlegrass, Wyoming big sagebrush, bluebunch wheatgrass, basin wildrye, antelope bitterbrush

Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Rock outcrop

Composition: 0 to 4 percent

Landform: Ridges

Softscrabble and similar soils

Composition: 0 to 2 percent

Slope: 30 to 50 percent

Landform: Backslopes of upper plateaus

Typical vegetation: Antelope bitterbrush, mountain big sagebrush, needlegrass, basin wildrye, other perennial forbs, bluebunch wheatgrass

Ecological site: R023XY041NV—Loamy 12-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

597—Wylo-Pickup-Ceejay association

Map Unit Setting

MLRA: 23

Landscape: Hills

Elevation: 5,240 to 6,210

Precipitation: 8 to 12 inches

Air temperature: 45 to 54 degrees Fahrenheit

Frost-free period: 80 to 110 days

Composition

Wylo very stony loam, 4 to 15 percent slopes—40 percent

Pickup very stony loam, 8 to 30 percent slopes—30 percent

Ceejay very stony loam, 4 to 15 percent slopes—15 percent

Bucklake very stony loam, 30 to 50 percent slopes—7 percent

Rock outcrop—5 percent

Devada very stony loam, 4 to 15 percent slopes—3 percent

Component Description

Wylo and similar soils

Landform: Southeast to southwest aspects on shoulders of hills

Slope: 4 to 15 percent, southeast to southwest aspects

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Thurber's needlegrass, bluegrass, other perennial forbs, Lahontan sagebrush, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 4 inches; very stony loam

Layer 2—4 to 15 inches; cobbly clay

Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Pickup and similar soils

Landform: Hills

Slope: 8 to 30 percent

Parent material: Residuum and colluvium derived from volcanic rocks

Typical vegetation: Lahontan sagebrush, other perennial forbs, bluegrass, bluebunch wheatgrass, Thurber's needlegrass

Typical profile:

Surface rock fragments: About 10 percent stones

Layer 1—0 to 8 inches; very stony loam

Layer 2—8 to 34 inches; very gravelly clay

Layer 3—34 to 44 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 20 to 40 inches

Saturated hydraulic conductivity class (root zone):

Moderately low, (Permeability class: Slow)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Ceejay and similar soils

Landform: Backslopes of hills

Slope: 4 to 15 percent

Parent material: Colluvium derived from volcanic rock and residuum weathered from volcanic rock

Typical vegetation: Thurber's needlegrass, Indian ricegrass, Webber needlegrass, other shrubs, other perennial forbs, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 5 percent stones

Layer 1—0 to 2 inches; very stony loam

Layer 2—2 to 16 inches; cobbly clay loam

Layer 3—16 to 26 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)

Available water capacity: About 2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Bucklake and similar soils

Composition: 0 to 7 percent

Slope: 30 to 50 percent, east to west aspects
 Landform: East to west aspects on hills
 Typical vegetation: Bluebunch wheatgrass, Wyoming big sagebrush, Thurber's needlegrass, basin wildrye, antelope bitterbrush
 Ecological site: R023XY039NV—Loamy slope 10-14 P.Z.

Rock outcrop

Composition: 0 to 5 percent
 Landform: Hills

Devada and similar soils

Composition: 0 to 3 percent
 Slope: 4 to 15 percent
 Landform: Backslopes of hills
 Typical vegetation: Other perennial forbs, low sagebrush, bluebunch wheatgrass, bluegrass, Thurber's needlegrass
 Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:
 "Range" section
 "Engineering" and "Soil Properties" sections

598—Wylo-Rock outcrop association

Map Unit Setting

MLRA: 23
 Landscape: Plateau
 Elevation: 5,520 to 6,320
 Precipitation: 8 to 12 inches
 Air temperature: 46 to 54 degrees Fahrenheit
 Frost-free period: 80 to 100 days

Composition

Wylo extremely stony loam, 8 to 30 percent slopes—75 percent
 Rock outcrop—15 percent
 Devada very stony loam, 8 to 15 percent slopes—4 percent
 Ceejay very stony loam, 4 to 15 percent slopes—3 percent
 Tunnison very cobbly clay, 0 to 4 percent slopes—2 percent
 Tuledad extremely cobbly loam, 4 to 8 percent slopes—1 percent

Component Description

Wylo and similar soils

Landform: Plateaus
 Slope: 8 to 30 percent
 Parent material: Residuum and colluvium derived from volcanic rocks
 Typical vegetation: Thurber's needlegrass, bluebunch wheatgrass, bluegrass, other perennial forbs, Lahontan sagebrush

Typical profile:

Surface rock fragments: About 6 percent fine gravel, 43 percent gravel, 3 percent cobbles, 18 percent stones
 Layer 1—0 to 4 inches; extremely stony loam
 Layer 2—4 to 15 inches; cobbly clay
 Layer 3—15 to 25 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (lithic): 14 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 2 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY037NV—Clay slope 8-12 P.Z.

Component Description

Rock outcrop

Landform: Plateaus
 Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Devada and similar soils

Composition: 0 to 4 percent
 Slope: 8 to 15 percent, west to east aspects
 Landform: West to east aspects on backslopes of plateaus
 Typical vegetation: Bluegrass, other perennial forbs, bluebunch wheatgrass, Thurber's needlegrass, low sagebrush

Ecological site: R023XY031NV—Claypan 10-14 P.Z.

Ceejay and similar soils

Composition: 0 to 3 percent

Slope: 4 to 15 percent, west to east aspects

Landform: West to east aspects on backslopes of plateaus

Typical vegetation: Lahontan sagebrush, Webber needlegrass, other shrubs, Thurber's needlegrass, Indian ricegrass, other perennial forbs

Ecological site: R023XY093NV—Gravelly clay 10-12 P.Z.

Tunnison and similar soils

Composition: 0 to 2 percent

Slope: 0 to 4 percent

Landform: Depressions

Typical vegetation: Bottlebrush squirreltail, Washoe rubber rabbitbrush, low sagebrush, other shrubs, other perennial forbs, Sandberg bluegrass

Ecological site: R023XY001NV—Churning clay

Tuledad and similar soils

Composition: 0 to 1 percent

Slope: 4 to 8 percent

Landform: Shoulders of plateaus

Typical vegetation: Thurber's needlegrass, low sagebrush, Sandberg bluegrass, other perennial forbs, other perennial grasses

Ecological site: R023XY044NV—Very cobbly claypan

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

600—Zorravista fine sand, 4 to 15 percent slopes

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,480 to 4,830

Precipitation: 8 to 10 inches

Air temperature: 46 to 49 degrees Fahrenheit

Frost-free period: 100 to 120 days

Composition

Zorravista fine sand, 4 to 15 percent slopes—90 percent

Pegler ashy fine sandy loam, 0 to 2 percent slopes—4 percent

Couch ashy fine sandy loam, 2 to 4 percent slopes—2 percent

Gorzell very gravelly sandy loam, 2 to 8 percent slopes—2 percent

Raglan very fine sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Zorravista and similar soils

Landform: Dunes

Slope: 4 to 15 percent

Parent material: Eolian deposits

Typical vegetation: Spiny hopsage, fourwing saltbush, Indian ricegrass, basin big sagebrush, other perennial forbs, basin wildrye, other shrubs

Typical profile:

Layer 1—0 to 4 inches; fine sand

Layer 2—4 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Pegler and similar soils

Composition: 0 to 4 percent

Slope: 0 to 2 percent

Landform: Rock pediments

Typical vegetation: Sandberg bluegrass, Wyoming big sagebrush, bottlebrush squirreltail, Thurber's needlegrass, other shrubs, spiny hopsage, Indian ricegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Couch and similar soils

Composition: 0 to 2 percent

Slope: 2 to 4 percent

Landform: Summits of basin-floor remnants

Typical vegetation: Black greasewood, other shrubs, big sagebrush, other perennial forbs, bottlebrush squirreltail, other perennial grasses, spiny hopsage, basin wildrye

Ecological site: R024XY022NV—Sodic terrace 8-10 P.Z.

Gorzell and similar soils

Composition: 0 to 2 percent

Slope: 2 to 8 percent

Landform: Beach terraces

Typical vegetation: Spiny hopsage, other shrubs, Wyoming big sagebrush, Sandberg bluegrass, bottlebrush squirreltail, Thurber's needlegrass, Indian ricegrass

Ecological site: R024XY020NV—Droughty loam 8-10 P.Z.

Raglan and similar soils

Composition: 0 to 2 percent

Slope: 0 to 2 percent

Landform: Lake terraces

Typical vegetation: Bud sagebrush, Indian ricegrass, bottlebrush squirreltail, other shrubs, shadscale

Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Crops and Pasture" section

"Engineering" and "Soil Properties" sections

601—Zorravista-Davey-Isolde association

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,480 to 5,000

Precipitation: 5 to 10 inches

Air temperature: 45 to 51 degrees Fahrenheit

Frost-free period: 90 to 120 days

Composition

Zorravista fine sand, 4 to 15 percent slopes—50 percent

Davey loamy fine sand, 2 to 4 percent slopes—25 percent

Isolde fine sand, 4 to 15 percent slopes—15 percent

Pegler ashy fine sandy loam, 0 to 2 percent slopes—5 percent

Nopeg ashy sandy loam, 0 to 2 percent slopes—3 percent

Macnot gravelly ashy sandy loam, 0 to 2 percent slopes—2 percent

Component Description

Zorravista and similar soils

Landform: Dunes

Slope: 4 to 15 percent

Parent material: Eolian deposits

Typical vegetation: Indian ricegrass, basin wildrye, other perennial forbs, basin big sagebrush, spiny hopsage, other shrubs, fourwing saltbush

Typical profile:

Layer 1—0 to 4 inches; fine sand

Layer 2—4 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low

Saturated hydraulic conductivity class (root zone): Very high, (Permeability class: Very rapid)

Available water capacity: About 4 inches

Present flooding: None

Present ponding: None

Natural drainage class: Excessively drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY011NV—Dunes 8-10 P.Z.

Component Description

Davey and similar soils

Landform: Sand sheets

Slope: 2 to 4 percent

Parent material: Mixed alluvium

Typical vegetation: Thurber's needlegrass, Indian ricegrass, other perennial forbs, big sagebrush, spiny hopsage, needleandthread

Typical profile:

Layer 1—0 to 4 inches; loamy fine sand

Layer 2—4 to 16 inches; fine sandy loam

Layer 3—16 to 60 inches; loamy fine sand

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): High,
 (Permeability class: Moderately rapid)
 Available water capacity: About 6 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Somewhat excessively drained

Interpretive Groups

Irrigated land capability: 3s
 Nonirrigated land capability: 7s
 Ecological site: R023XY051NV—Sandy 8-12 P.Z.

Component Description**Isolde and similar soils**

Landform: Dunes
 Slope: 4 to 15 percent
 Parent material: Eolian material
 Typical vegetation: Needleandthread, basin wildrye,
 other perennial grasses, other perennial forbs, spiny
 hopsage, Indian ricegrass, other shrubs, black
 greasewood

Typical profile:

Layer 1—0 to 7 inches; fine sand
 Layer 2—7 to 60 inches; fine sand

See "Chemical Soil Properties" table and the "Physical
 Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very low
 Saturated hydraulic conductivity class (root zone): Very
 high, (Permeability class: Very rapid)
 Available water capacity: About 5 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Excessively drained

Interpretive Groups

Irrigated land capability: 4s
 Nonirrigated land capability: 7s
 Ecological site: R024XY066NV—Sodic Dunes

Typical soil descriptions including ranges in
 characteristics are in the "Classification of the Soils"
 section.

Contrasting Inclusions**Pegler and similar soils**

Composition: 0 to 5 percent
 Slope: 0 to 2 percent
 Landform: Rock pediments

Typical vegetation: Thurber's needlegrass, bottlebrush
 squirreltail, Sandberg bluegrass, Wyoming big
 sagebrush, other shrubs, spiny hopsage, Indian
 ricegrass

Ecological site: R024XY020NV—Droughty loam 8-10
 P.Z.

Nopeg and similar soils

Composition: 0 to 3 percent
 Slope: 0 to 2 percent
 Landform: Rock pediments
 Typical vegetation: Indian ricegrass, bottlebrush
 squirreltail, bud sagebrush, shadscale, other shrubs
 Ecological site: R024XY002NV—Loamy 5-8 P.Z.

Macnot nearly level and similar soils

Composition: 0 to 2 percent
 Slope: 0 to 2 percent
 Landform: Alluvial fans
 Typical vegetation: Basin wildrye, big sagebrush, other
 perennial forbs, other shrubs, spiny hopsage,
 thickspike wheatgrass
 Ecological site: R023XY097NV—Loamy fan 8-10 P.Z.

Management

For information about managing this map unit, see the
 following sections and associated tables in this
 publication:

"Range" section
 "Crops and Pasture" section
 "Engineering" and "Soil Properties" sections

602—Zorromount-Hutchley association**Map Unit Setting**

MLRA: 23
 Landscape: Mountains
 Elevation: 5,830 to 8,150
 Precipitation: 12 to 18 inches
 Air temperature: 39 to 45 degrees Fahrenheit
 Frost-free period: 55 to 85 days

Composition

Zorromount gravelly ashy mucky fine sandy loam, 4 to
 30 percent slopes—40 percent
 Hutchley very cobbly sandy loam, 4 to 15 percent
 slopes—30 percent
 Zorromount very gravelly ashy sandy loam, snowpocket,
 4 to 30 percent slopes—15 percent
 Cavin very gravelly ashy sandy loam, 8 to 30 percent
 slopes—6 percent
 Ashtre very gravelly ashy loam, 4 to 15 percent slopes—
 4 percent

Nutzan very gravelly ashy sandy loam, 4 to 15 percent slopes—4 percent

Newlands gravelly loam, 15 to 30 percent slopes—1 percent

Component Description

Zorromount and similar soils

Landform: West to east aspects on backslopes of mountains

Slope: 4 to 30 percent, west to east aspects

Parent material: Volcanic ash and colluvium derived from volcanic rocks

Typical vegetation: Mountain big sagebrush, bluebunch wheatgrass, Idaho fescue, needlegrass, Cusick's bluegrass, curleaf mountainmahogany

Typical profile:

Surface rock fragments: About 8 percent stones

Layer 1—0 to 1 inches; gravelly ashy mucky fine sandy loam

Layer 2—1 to 11 inches; very gravelly ashy sandy loam

Layer 3—11 to 31 inches; extremely gravelly ashy fine sandy loam

Layer 4—31 to 60 inches; extremely gravelly ashy fine sandy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R023XY026NV—Mahogany Savanna

Component Description

Hutchley and similar soils

Landform: Summits of mountains

Slope: 4 to 15 percent

Parent material: Colluvium and residuum derived from volcanic rocks

Typical vegetation: Idaho fescue, basin wildrye, antelope bitterbrush, bluebunch wheatgrass, mountain big sagebrush, needlegrass, other perennial forbs

Typical profile:

Surface rock fragments: About 21 percent cobbles, 21 percent gravel, 2 percent fine gravel

Layer 1—0 to 6 inches; very cobbly sandy loam

Layer 2—6 to 14 inches; very gravelly clay loam

Layer 3—14 to 24 inches; bedrock

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: High

Depth to restrictive feature: Bedrock (lithic): 10 to 20 inches

Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)

Available water capacity: About 1.2 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s

Ecological site: R023XY008NV—Mountain ridge

Component Description

Zorromount snowpocket and similar soils

Landform: West to east aspects on backslopes of mountains

Slope: 4 to 30 percent, west to east aspects

Parent material: Volcanic ash and colluvium derived from volcanic rocks

Typical vegetation: Other perennial grasses, other shrubs, other perennial forbs, snowbrush ceanothus

Typical profile:

Surface rock fragments: About 8 percent stones

Layer 1—0 to 1 inches; very gravelly ashy sandy loam

Layer 2—1 to 11 inches; very gravelly ashy sandy loam

Layer 3—11 to 31 inches; extremely gravelly ashy fine sandy loam

Layer 4—31 to 60 inches; extremely gravelly ashy fine sandy loam

See “Chemical Soil Properties” table and the “Physical Soil Properties” table for more information.

Component Properties and Qualities

Runoff: Low

Saturated hydraulic conductivity class (root zone): High, (Permeability class: Moderately rapid)

Available water capacity: About 3 inches

Present flooding: None

Present ponding: None

Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 6e

Ecological site: R025XY052NV—Ceanothus thicket

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions

Cavin and similar soils

Composition: 0 to 6 percent

Slope: 8 to 30 percent, east to west aspects

Landform: East to west aspects on shoulders of mountains

Typical vegetation: Mountain big sagebrush, Idaho fescue, bluebunch wheatgrass, other perennial forbs, Cusick's bluegrass, needlegrass

Ecological site: R023XY061NV—Mountain shoulders 14-18 P.Z.

Ashtre and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Backslopes of ash flows

Typical vegetation: Other perennial grasses, bluegrass, bluebunch wheatgrass, other perennial forbs, needlegrass, other shrubs, mountain big sagebrush, Idaho fescue

Ecological site: R023XY094NV—Ashy slope 12-14 P.Z.

Nutzan and similar soils

Composition: 0 to 4 percent

Slope: 4 to 15 percent

Landform: Summits of mountains

Typical vegetation: Other perennial grasses, other perennial forbs, antelope bitterbrush, other shrubs, Idaho fescue, needlegrass, mountain big sagebrush

Ecological site: R023XY066NV—Ashy loam 14-16 P.Z.

Newlands and similar soils

Composition: 0 to 1 percent

Slope: 15 to 30 percent

Landform: Backslopes of mountains

Typical vegetation: Melic, other perennial forbs, other shrubs, Idaho fescue, mountain big sagebrush, needlegrass, mountain brome

Ecological site: R023XY065NV—Loamy slope 16+ P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

603—Zymans-Cotant-Hart Camp association

Map Unit Setting

MLRA: 23

Landscape: Hills

Elevation: 5,960 to 6,630

Precipitation: 10 to 16 inches

Air temperature: 39 to 48 degrees Fahrenheit

Frost-free period: 50 to 110 days

Composition

Zymans cobbly loam, 8 to 30 percent slopes—50 percent

Cotant very gravelly loam, 8 to 30 percent slopes—20 percent

Hart Camp gravelly loam, 15 to 30 percent slopes—15 percent

Schamp very stony loam, 8 to 30 percent slopes—8 percent

Old Camp very stony loam, 15 to 30 percent slopes—7 percent

Component Description

Zymans and similar soils

Landform: Backslopes of hills

Slope: 8 to 30 percent

Parent material: Colluvium and/or residuum weathered from tuff

Typical vegetation: Other perennial forbs, big sagebrush, Thurber's needlegrass, bluebunch wheatgrass

Typical profile:

Surface rock fragments: About 13 percent cobbles, 17 percent gravel

Layer 1—0 to 8 inches; cobbly loam

Layer 2—8 to 27 inches; clay

Layer 3—27 to 48 inches; clay

Layer 4—48 to 58 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 40 to 60 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 8 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY020NV—Loamy 10-12 P.Z.

Component Description**Cotant and similar soils**

Landform: Summits of hills
 Slope: 8 to 30 percent
 Parent material: Residuum and colluvium derived from tuffaceous rocks
 Typical vegetation: Thurber's needlegrass, Idaho fescue, bluegrass, other perennial grasses, bluebunch wheatgrass, other shrubs, low sagebrush, other perennial forbs

Typical profile:

Layer 1—0 to 2 inches; very gravelly loam
 Layer 2—2 to 19 inches; clay
 Layer 3—19 to 29 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: High
 Depth to restrictive feature: Bedrock (paralithic): 12 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately low, (Permeability class: Slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY017NV—Claypan 14-16 P.Z.

Component Description**Hart Camp and similar soils**

Landform: Backslopes of hills

Slope: 15 to 30 percent
 Parent material: Residuum weathered from tuff
 Typical vegetation: Antelope bitterbrush, other perennial forbs, mountain big sagebrush, bluebunch wheatgrass, needlegrass

Typical profile:

Surface rock fragments: About 2 percent stones, 5 percent cobbles, 15 percent gravel
 Layer 1—0 to 3 inches; gravelly loam
 Layer 2—3 to 16 inches; gravelly clay loam
 Layer 3—16 to 26 inches; bedrock

See "Chemical Soil Properties" table and the "Physical Soil Properties" table for more information.

Component Properties and Qualities

Runoff: Very high
 Depth to restrictive feature: Bedrock (paralithic): 10 to 20 inches
 Saturated hydraulic conductivity class (root zone): Moderately high, (Permeability class: Moderately slow)
 Available water capacity: About 3 inches
 Present flooding: None
 Present ponding: None
 Natural drainage class: Well drained

Interpretive Groups

Nonirrigated land capability: 7s
 Ecological site: R023XY015NV—Stony loam 12-14 P.Z.

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Contrasting Inclusions**Schamp and similar soils**

Composition: 0 to 8 percent
 Slope: 8 to 30 percent
 Landform: Backslopes of hills
 Typical vegetation: Thurber's needlegrass, Indian ricegrass, other shrubs, other perennial forbs, other perennial grasses, Wyoming big sagebrush
 Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Old Camp and similar soils

Composition: 0 to 7 percent
 Slope: 15 to 30 percent
 Landform: Hills
 Typical vegetation: Wyoming big sagebrush, other shrubs, other perennial forbs, other perennial grasses, Indian ricegrass, Thurber's needlegrass

Ecological site: R023XY006NV—Loamy 8-10 P.Z.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

999—Water

Map Unit Setting

MLRA: 23

Landscape: Basin

Elevation: 4,450 to 7,280

Composition

Water—100 percent

Component Description

Water

Landform: Depressions

Typical soil descriptions including ranges in characteristics are in the "Classification of the Soils" section.

Management

For information about managing this map unit, see the following sections and associated tables in this publication:

"Range" section

"Engineering" and "Soil Properties" sections

Prime Farmland and Other Important Farmland

Figure 1, "Prime Farmland and Statewide Important Farmland" lists the map units in the survey area that are considered prime farmland, unique farmland, and farmland of statewide or local importance. This list does not constitute a recommendation for a particular land use.

In an effort to identify the extent and location of important farmlands, the Natural Resources Conservation Service, in cooperation with other interested Federal, State, and local government organizations, has inventoried land that can be used for the production of the Nation's food supply.

Prime farmland is of major importance in meeting the Nation's short- and long-range needs for food and fiber. Because the supply of high-quality farmland is limited, the U.S. Department of Agriculture recognizes that responsible levels of government, as well as individuals, should encourage and facilitate the wise use of our Nation's prime farmland.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or built-up land or water areas. The soil quality, growing season, and moisture supply are those needed for the soil to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied. In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. More detailed information about the criteria for prime farmland is available at the

local office of the Natural Resources Conservation Service.

A recent trend in land use in some areas has been the loss of some prime farmland to industrial and urban uses. The loss of prime farmland to other uses puts pressure on marginal lands, which generally are more erodible, droughty, and less productive and cannot be easily cultivated.

For some soils identified in the table as prime farmland, measures that overcome a hazard or limitation, such as flooding, wetness, and droughtiness, are needed. Onsite evaluation is needed to determine whether or not the hazard or limitation has been overcome by corrective measures.

Unique farmland is land other than prime farmland that is used for the production of specific high-value food and fiber crops, such as citrus, tree nuts, olives, cranberries, and other fruits and vegetables. It has the special combination of soil quality, growing season, moisture supply, temperature, humidity, air drainage, elevation, and aspect needed for the soil to economically produce sustainable high yields of these crops when properly managed. The water supply is dependable and of adequate quality. Nearness to markets is an additional consideration. Unique farmland is not based on national criteria. It commonly is in areas where there is a special microclimate, such as the wine country in California.

In some areas, land that does not meet the criteria for prime or unique farmland is considered to be *farmland of statewide importance* for the production of food, feed, fiber, forage, and oilseed crops. The criteria for defining and delineating farmland of statewide importance are determined by the appropriate State agencies. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable. Farmland of statewide importance may include tracts of land that have been designated for agriculture by State law. The state of California has defined farmland of statewide

importance as land other than Prime Farmland which has a good combination of physical and chemical characteristics for the production of crops. It must have been used for the production of irrigated crops. Specific criteria relate to adequate available water capacity, a dependable water supply, favorable soil temperature regime, favorable soil reaction, no water table at depths that interfere with cultivated crop, favorable sodium content, limited erodibility and few large rock fragments in the upper six inches. In addition, the soils are not frequently flooded during the growing season. The state of Nevada has defined farmland of statewide importance to include all irrigated farmland. The Nevada farmlands of statewide importance are of small extent, and are not specifically listed in this report.

In some areas that are not identified as having national or statewide importance, land is considered to be *farmland of local importance* for the production of

food, feed, fiber, forage, and oilseed crops. This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance.

Figure 1 lists the map units of prime farmland and California farmland of statewide importance within the soil survey.

About 8.4 percent (43,136 acres) of the survey area is in map units considered to meet the criteria for prime farmland if they are irrigated. Some of the map units also require drainage or reclamation of excess salts and sodium in order to meet the criteria for prime farmland. The specific management practices required for the map units to qualify as prime farmland are listed in Figure 1.

About 3.8 percent of the area meets the criteria for California farmland of statewide importance.

Figure 1.—Prime Farmland and Statewide Important Farmland

Map symbol	Map unit name	Farmland Classification
385	Donica-Surprise gravelly ashy sandy loams, 5 to 15 percent slopes	Farmland of statewide importance
427	Hussa ashy clay loam, 0 to 2 percent slopes	Farmland of statewide importance
428	Hussa ashy clay loam, clay substratum, 0 to 2 percent slopes	Farmland of statewide importance
429	Hussa ashy loam, clay substratum, drained, 0 to 2 percent slopes	Farmland of statewide importance
430	Hussa ashy loam, drained, 0 to 2 percent slopes	Farmland of statewide importance
431	Hussa ashy loam, drained, 2 to 5 percent slopes	Farmland of statewide importance
561	Simpson gravelly ashy sandy loam, 5 to 15 percent slopes	Farmland of statewide importance
310	Bidwell ashy loam, 0 to 2 percent slopes	Prime farmland if irrigated
311	Bidwell ashy loam, 2 to 5 percent slopes	Prime farmland if irrigated
380	Donica gravelly ashy sandy loam, 2 to 5 percent slopes	Prime farmland if irrigated
467	Nevadash ashy fine sandy loam, 0 to 2 percent slopes	Prime farmland if irrigated
468	Nevadash ashy fine sandy loam, 2 to 5 percent slopes	Prime farmland if irrigated
469	Nevadash ashy loamy fine sand, 0 to 2 percent slopes	Prime farmland if irrigated
562	Simpson ashy loam, 0 to 2 percent slopes	Prime farmland if irrigated
563	Simpson ashy sandy loam, 2 to 5 percent slopes	Prime farmland if irrigated
574	Surprise gravelly ashy sandy loam, 0 to 2 percent slopes	Prime farmland if irrigated
575	Surprise gravelly ashy sandy loam, 2 to 5 percent slopes	Prime farmland if irrigated
333	Buntingville ashy loam, 0 to 2 percent slopes	Prime farmland if irrigated and drained
334	Buntingville ashy loam, 2 to 5 percent slopes	Prime farmland if irrigated and drained
400	Four Star ashy loam	Prime farmland if irrigated and drained
532	Raglan-Mazuma association	Prime farmland if irrigated and reclaimed of excess salts and sodium

Classification of the Soils

The system of soil classification used by the National Cooperative Soil Survey has six categories (Soil Survey Staff, 1999; Soil Survey Staff, 2003). 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 18, "Taxonomic Classification of the Soils," 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 Mollisol.

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 Xeroll (*Xer*, meaning *xeric*, plus *oll*, from Mollisol).

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; 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 Argixeroll. (*Argi*, meaning *presence of argillic horizon*, plus *xeroll*, the suborder of the Mollisols that have a xeric moisture regime).

SUBGROUP. Each great group has a *typic* subgroup. Other subgroups are *intergrades* or *extragrades*. The *typic* 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 known kind of soil. 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 Argixerolls*.

FAMILY. Families are established within a subgroup on the basis of physical and chemical properties and other characteristics that affect management. Generally, the properties are those of horizons below plow depth where there is much biological activity. Among the properties and characteristics considered are particle-size class, mineral content, temperature regime, thickness of the root zone, consistence, moisture equivalent, slope, and permanent cracks. A family name consists of the name of a subgroup preceded by terms that indicate soil properties. An example is *loamy-skeletal, mixed, frigid, Typic Argixerolls*.

SERIES. The series consists of soils that have similar horizons in their profile. The horizons are similar in color, texture, structure, reaction, consistence, mineral and chemical composition, and arrangement in the profile. The texture of the surface layer or of the substratum can differ within a series.

Taxonomic Units and Their Morphology

In this section, each taxonomic unit recognized in the survey area is described. The descriptions are arranged in alphabetic order.

Characteristics of the soil and the material in which it formed are identified for each unit. A *pedon*, a small three-dimensional area of soil that is typical of the unit in the survey area is described. The detailed descriptions of each soil horizon follow standards in the "Soil Survey Manual" (Soil Survey Division Staff, 1988). Many of the technical terms used in the descriptions are defined in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003). Unless otherwise stated, colors in the descriptions are for dry

soil. Following the pedon description is the range of important characteristics of the soils in the unit.

The map units of each taxonomic unit are described in the section "Detailed Soil Map Units".

Anawalt series

The Anawalt series consists of shallow, well drained soils that formed in colluvium and residuum derived from volcanic rocks with some loess and volcanic ash influence in the surface. Anawalt soils are on plateaus. Slopes are 5 to 15 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey, smectitic, frigid Lithic Xeric Haplargids

Typical pedon: Anawalt very gravelly loam in an area of Humboldt County, NV, West Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; light brownish gray (10YR 6/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; weak very fine granular structure; soft, friable, nonsticky and nonplastic; few very fine roots; many very fine vesicular pores; 40 percent pebbles; moderately alkaline (pH 8.0); abrupt smooth boundary.

A2—2 to 6 inches; light brownish gray (10YR 6/2) very gravelly loam, dark grayish brown (10YR 4/2) moist; strong thick platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine tubular and vesicular pores; 40 percent pebbles; moderately alkaline (pH 8.0); abrupt smooth boundary.

Bt—6 to 15 inches; brown (10YR 4/3) gravelly clay, dark yellowish brown (10YR 3/4) moist; strong fine angular blocky structure; hard, very firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common thin clay films on faces of peds; 20 percent pebbles, 5 percent cobbles; moderately alkaline (pH 8.2); abrupt smooth boundary.

R—15 inches; fractured igneous bedrock.

Type location: Humboldt County, Nevada; approximately 2 miles west of Denio in the Pueblo Mountains, about 600 feet east and 200 feet south of the northwest corner of section 6, T.47 N., R.30 E.; 41 degrees, 59 minutes, 30 seconds north latitude and 118 degrees, 40 minutes, 35 seconds west longitude. NAD27.

Range in Characteristics:

Soil moisture: The soils are usually dry but are moist between depths of 4 and 12 inches for 60 days or more out of the 120 days following the winter solstice and are moist more than 25 percent of the time that the soil temperature is 41 degrees F. or more; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 42 to 47 degrees F.

Depth to base of argillic horizon: 12 to 20 inches.

Depth to bedrock: 12 to 20 inches to a lithic contact; in some pedons the bedrock is fractured with secondary carbonates or opaline silica on the lower sides of rock fragments.

Particle-size control section:

Clay content—35 to 60 percent.

Rock fragments—Averages 5 to 30 percent, mainly pebbles. Lithology of fragments are volcanic rocks such as basalt.

Reaction—Neutral through moderately alkaline.

Abrupt textural change—An abrupt horizon boundary is normally present between the A2 and the Bt1 horizon accompanied by an abrupt increase in clay content of between 15 and 25 percent absolute.

A1 and A2 horizons:

Value—5 or 6 dry, 2 through 4 moist; When the upper 7 inches of the epipedon is mixed, the dry value is 6.

Chroma—2 through 4, dry or moist.

Bt horizon:

Hue—10YR or 7.5YR.

Value—3 through 6 dry, 3 or 4 moist.

Chroma—2 through 6, dry or moist.

Texture—Clay, gravelly silty clay, gravelly silty clay loam, gravelly clay, gravelly clay loam, cobbly clay loam, or cobbly clay.

Clay content—35 to 60 percent.

Consistence—Firm or very firm, moist.

Other features—Some pedons have accumulations of secondary silica as pendants on rock fragments.

Ashcamp series

The Ashcamp series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from andesitic tuff and similar volcanic rocks. Ashcamp soils are on plateaus. Slopes are 2 to 15 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy, glassy, mesic, shallow
Vitritorrandic Argixerolls

Typical pedon: Ashcamp ashy sandy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; grayish brown (10YR 5/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine tubular and few very fine interstitial pores; 10 percent pebbles; neutral (pH 7.0); clear smooth boundary.

Bt—3 to 7 inches; grayish brown (10YR 5/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; common faint clay films on faces of peds and lining pores; 10 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Cr—7 inches; soft, weathered andesitic tuff; breaks into 2 to 6 centimeter thick plates; many roots and some soil in fractures.

Type location: Washoe County, Nevada; about 27.5 miles east of Vya; 1,600 feet south and 1,600 feet west of the northeast corner of section 1, T.42 N., R.23 E.; USGS Badger Mountain SE 7.5 minute topographic quadrangle; 41 degrees, 35 minutes, 10 seconds north latitude and 119 degrees, 19 minutes, 34 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from July through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 51 degrees F.

Mollic epipedon thickness: 7 to 14 inches, includes the Bt horizon.

Depth to bedrock: 7 to 14 inches to a paralithic contact. The paralithic materials below the contact are vitric tuffs.

Volcanic glass content: 35 to 60 percent in the coarse silt through fine sand fractions.

Control section:

Clay content—12 to 18 percent.

Rock fragments—0 to 15 percent pebbles. Lithology of fragments are volcanic rocks such as tuff.

Other features—Many roots are present within bedrock fractures.

A horizon:

Value—2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt horizon:

Hue—10YR or 7.5YR.

Value—2 or 3 moist.

Chroma—2 or 3, dry or moist.

Structure—Angular blocky or subangular blocky.

Rock fragments—0 to 15 percent pebbles.

Consistence—Slightly hard or hard dry.

Ashdos series

The Ashdos series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from andesitic tuff and similar volcanic rocks. Ashdos soils are on backslopes of ash flows. Slopes are 4 to 30 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy, glassy, frigid Vitritorrandic Argixerolls

Typical pedon: Ashdos very gravelly ashy fine sandy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; light brownish gray (10YR 6/2) very gravelly ashy fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 40 percent pebbles; neutral (pH 6.8); clear wavy boundary.

A2—2 to 7 inches; brown (10YR 5/3) gravelly ashy fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine tubular pores; 20 percent pebbles; neutral (pH 7.0); clear wavy boundary.

A3—7 to 12 inches; brown (10YR 5/3) gravelly ashy fine sandy loam, very dark grayish brown (10YR 3/2) moist; strong fine and medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and common fine tubular pores; 20 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt1—12 to 19 inches; light yellowish brown (10YR 6/4) gravelly ashy sandy clay loam, brown (10YR 4/3)

moist; strong fine and medium angular blocky structure; very hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine tubular pores; common faint and few distinct clay films on faces of peds and lining pores; 20 percent pebbles; neutral (pH 7.2); gradual smooth boundary.

Bt2—19 to 24 inches; light yellowish brown (10YR 6/4) gravelly ashy sandy clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium and coarse angular blocky structure; very hard, very friable, sticky, plastic; common very fine roots; common very fine tubular pores; common faint and few distinct clay films on faces of peds and lining pores; 30 percent pebbles; slightly alkaline (pH 7.4); gradual smooth boundary.

Cr—24 inches; soft, weathered andesitic tuff; can be dug with difficulty; about 10 percent fine pebbles and 30 percent medium pebbles in the rock matrix; thin (<1 mm) silica coats over bedrock.

Type location: Washoe County, Nevada; about 1 mile west of Vya; 1,900 feet south and 2,200 feet east of the projected northwest corner of section 5, T.42 N., R.19 E.; USGS Fortynine Mountain 7.5 minute topographic quadrangle; 41 degrees, 35 minutes, 32 seconds north latitude and 119 degrees, 52 minutes, 45 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in the moisture control section in winter and spring; dry from July through October; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 45 to 47 degrees F.

Mollic epipedon thickness: 8 to 16 inches.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a paralithic contact.

The paralithic materials below the contact are vitric tuffs.

Volcanic glass content: 35 to 90 percent in the very fine sand and fine sand fractions.

Particle-size control section:

Clay content—18 to 25 percent.

Rock fragments—15 to 30 percent pebbles. Lithology of fragments are volcanic rocks such as tuff.

Reaction—Neutral or slightly alkaline.

A horizons:

Value—5 or 6 dry, 2 or 3 moist. A dry value of 6 is only in the thin A1 horizon and the upper 7 inches when mixed has a dry value of 5.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 3 percent.

Bt horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Clay content—18 to 25 percent.

Rock fragments—15 to 35 percent pebbles in any individual horizon; 15 to 30 percent pebbles when mixed.

Structure—Angular blocky or subangular blocky.

Consistence—Hard or very hard dry, very friable or friable moist.

Ashtre series

The Ashtre series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from andesitic tuff and similar volcanic rocks. Ashtre soils are on back slopes of ash flows. Slopes are 2 to 30 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy, glassy, frigid Vitritorrandic Argixerolls

Typical pedon: Ashtre very gravelly ashy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; pale brown (10YR 6/3) very gravelly ashy loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular pores; 40 percent pebbles and 2 percent cobbles; slightly acid (pH 6.4); clear wavy boundary.

A2—2 to 7 inches; brown (10YR 5/3) ashy loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine tubular pores; 10 percent pebbles and 1 percent cobbles; neutral (pH 6.6); clear wavy boundary.

Bt1—7 to 11 inches; brown (10YR 5/3) ashy loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine, common fine, and few medium roots; common very fine and few fine tubular pores; common faint clay films on faces of peds and lining pores; 10 percent pebbles; neutral (pH 6.8); clear wavy boundary.

Bt2—11 to 17 inches; light yellowish brown (10YR 6/4) ashy clay loam, brown (10YR 4/3) moist; strong medium subangular blocky structure; very hard, very friable, moderately sticky and moderately plastic; common very fine and few fine and medium roots; many very fine tubular pores; common faint and distinct clay films on faces of peds, lining pores, and bridging sand grains; 10 percent pebbles and 1 percent cobbles; neutral (pH 6.8); clear wavy boundary.

Bt3—17 to 26 inches; light brown (7.5YR 6/4) ashy clay loam, strong brown (7.5YR 4/6) moist; moderate medium and coarse subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine and common fine tubular pores; common faint and few distinct clay films on faces of peds, lining pores, and bridging sand grains; 10 percent pebbles and 3 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.

Cr—26 inches; soft, weathered andesitic tuff; can be dug with difficulty; thin silica coats over bedrock.

Type location: Washoe County, Nevada; about 9 miles northeast of Vya in Little Basin; in a unsectionized township near the projected northwest corner of section 3, T.43 N., R.20 E.; USGS Massacre Lake NW 7.5 minute topographic quadrangle; 41 degrees, 40 minutes, 57 seconds north latitude and 119 degrees, 43 minutes, 44 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from July through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 45 to 47 degrees F.

Mollic epipedon thickness: 10 to 16 inches, usually includes the Bt1 horizon.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a paralithic contact. The paralithic materials below the contact are vitric tuffs.

Volcanic glass content: 35 to 60 percent in coarse silt through very coarse sand fractions.

Particle-size control section:

Clay content—27 to 35 percent.

Rock fragments—5 to 15 percent pebbles. Lithology of fragments are volcanic rocks such as tuff.

Reaction—Neutral or slightly acid.

A horizons:

Value—5 or 6 dry, 2 or 3 moist. A dry value of 6 is only in the thin A1 horizon and the upper 7 inches when mixed has a dry value of 5.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 3 percent.

Bt horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 through 6, dry or moist.

Texture—Ashy loam or ashy clay loam.

Clay content—20 to 25 percent in the Bt1 horizon, 27 to 35 percent in the Bt2 and Bt3 horizons.

Structure—Angular blocky or subangular blocky.

Consistence—Hard or very hard dry, very friable or friable moist.

Rock fragments—5 to 15 percent, mainly pebbles.

Organic matter content—1 to 3 percent in the Bt1 horizon.

Badgercamp series

The Badgercamp series consists of shallow, well drained soils that formed in residuum derived from soft tuffaceous bedrock. Badgercamp soils are on plateaus. Slopes are 8 to 30 percent. The mean annual precipitation is about 17 inches and the mean annual temperature is about 40 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, shallow Xeric Argicryolls

Typical pedon: Badgercamp loam in an area of Sheldon Antelope Reserve, NV, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with about 2 percent boulders and 10 percent cobbles and pebbles.

A1—0 to 2 inches; dark grayish brown (10YR 4/2) loam, very dark brown (10YR 2/2) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine tubular pores; 2 percent boulders and 5 percent pebbles; neutral (pH 6.8); clear smooth boundary.

A2—2 to 9 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; 15 percent pebbles; neutral (pH 6.8); abrupt smooth boundary.

Bt—9 to 19 inches; brown (10YR 5/3) extremely gravelly

loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; few faint clay films on faces of peds; 65 percent pebbles, 10 percent cobbles, and 2 percent stones; neutral (pH 6.8); clear smooth boundary.

Cr—19 inches; tuffaceous bedrock.

Type location: Humboldt County, Nevada; about 28 miles east-northeast of Vya and 1 mile southwest of Badgercamp on the Sheldon National Wildlife Refuge; in a unsectionized area near the projected southwest corner of section 18, T.43 N., R.24 E.; USGS Blowout Mountain 7.5 minute topographic quadrangle; 41 degrees, 38 minutes, 15 seconds north latitude and 119 degrees, 19 minutes, 10 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter, spring, and early summer, dry mid-July through early October; xeric moisture regime that borders on aridic.

Soil temperature: 40 to 42 degrees F.

Mean summer soil temperature: 54 to 59 degrees F.

Thickness of mollic epipedon: 7 to 15 inches.

Depth to bedrock: 14 to 20 inches to a paralithic contact.

The paralithic materials below the contact are soft bedrock such as tuff and tuffaceous sandstone.

Control section:

Clay content—12 to 18 percent.

Rock fragments—40 to 80 percent, mainly pebbles larger than 5 millimeters. Lithology of fragments are volcanic rocks such as tuff and basalt.

A horizons:

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt horizon:

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Very gravelly loam or extremely gravelly loam.

Consistence—Very friable or friable, nonsticky or slightly sticky, nonplastic or slightly plastic.

Bareranch series

The Bareranch series consists of deep to soft tuff, well drained soils formed in residuum and colluvium from volcanic rocks, high in pyroclastic materials. Bareranch

soils are on beach terraces on hills. Slopes are 8 to 30 percent. The mean annual precipitation is about 11 inches, and the mean annual temperature is about 48 degrees F.

Taxonomic class: Ashy-skeletal, glassy, mesic Vitritorrandic Argixerolls

Typical pedon: Bareranch very stony ashy sandy loam in an area of map unit 344, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered with 15 percent gravel, 15 percent cobbles and 10 percent stones.

A1—0 to 3 inches; grayish brown (10YR 5/2) very stony ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate thin and medium platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and many fine roots; many very fine interstitial and tubular pores; noneffervescent; 15 percent igneous gravel and 15 percent cobbles and 15 percent stones; neutral (pH 7.0); clear wavy boundary.

A2—3 to 9 inches; grayish brown (10YR 5/2) very stony ashy fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium and thick platy structure parting to moderate medium and coarse subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine and few medium and coarse roots; many very fine interstitial and tubular pores; noneffervescent; 15 percent igneous gravel and 15 percent cobbles and 15 percent stones; neutral (pH 7.0); clear wavy boundary.

Bt1—9 to 14 inches; grayish brown (10YR 5/2) very cobbly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine and few fine to coarse roots; many very fine tubular and common fine tubular pores; common distinct dark brown (10YR 3/3), dry, clay films on faces of peds and in pores; noneffervescent; 20 percent igneous gravel and 20 percent cobbles and 15 percent stones; neutral (pH 7.0); clear wavy boundary.

Bt2—14 to 20 inches; brown (10YR 5/3) very cobbly ashy sandy clay loam, dark grayish brown (10YR 4/2) moist; weak coarse subangular blocky structure; very hard, very friable, moderately sticky and moderately plastic; many very fine and fine and few medium roots; many very fine tubular and common fine tubular pores; common distinct brown (10YR 4/3),

dry, clay films on faces of peds and in pores; noneffervescent; 25 percent igneous gravel and 20 percent cobbles and 10 percent stones; neutral (pH 7.3); clear wavy boundary.

Bt3—20 to 29 inches; pale brown (10YR 6/3) very cobbly ashy sandy loam, dark grayish brown (10YR 4/2) moist; weak coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; few very fine to medium roots; common very fine tubular pores; few distinct brown (10YR 4/3), dry, clay films on faces of peds and in pores; noneffervescent; 25 percent igneous gravel and 20 percent cobbles and 10 percent stones; neutral (pH 7.3); clear wavy boundary.

C—29 to 42 inches; light brownish gray (10YR 6/2) very cobbly ashy sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine interstitial and tubular pores; 20 percent igneous gravel and 20 percent cobbles and 5 percent stones; neutral (pH 7.3); abrupt wavy boundary.

Cr—42 to 60 inches; soft volcanic pyroclastic tuff, slightly alkaline (pH 7.5).

Type location: Lassen County, California; at the south end of Surprise Valley; about 1 mile south of Nevada Hwy. 447 and about 0.75 mile west of the California-Nevada state line; about 700 feet east and 1,200 feet south of the northwest corner of section 23, T.38 N., R.17 E.; 41 degrees, 8 minutes, 46.7 seconds north latitude and 120 degrees, 00 minutes, 58.7 seconds west longitude. NAD27; USGS Snake Lake 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring; dry June through October. Soil moisture regime is aridic bordering xeric.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 10 to 20 inches, includes the upper part of the argillic horizon.

Depth to paralithic contact: 40 to 60 inches.

Depth to base of the Bt horizons: 25 to 35 inches.

Control section:

Clay content—16 to 23 percent.

Rock fragments—45 to 55 percent mostly cobbles and pebbles. Lithology of rock fragments is hard volcanic basalt or andesite.

Mineralogy—40 to 60 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

A horizon:

Value—2 or 3 moist. The average value of the upper 7 inches is less than 5.5 dry.

Chroma—2 or 3.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Structure—Weak through strong, fine through coarse subangular blocky or angular blocky.

Reaction—Neutral or slightly alkaline.

Rock fragments—45 to 55 percent mostly cobbles and pebbles. Lithology of rock fragments is hard volcanic basalt or andesite.

C horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

Rock fragments—40 to 55 percent mostly cobbles and pebbles. Lithology of rock fragments is hard volcanic basalt or andesite.

Bicondoa series

The Bicondoa series consists of very deep, poorly drained soils formed in clayey alluvium from tuff and basalt. Bicondoa soils are on floodplains and have slopes of 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, smectitic, calcareous, frigid Fluvaquentic Vertic Endoaquolls

Typical pedon: Bicondoa clay in an area of map unit 308, meadow. (Colors are for dry soil unless otherwise stated).

A1—0 to 3 inches; gray (10YR 5/1) clay, very dark brown (10YR 2/2) moist; strong very fine granular structure; hard, friable, very sticky, very plastic; many very fine and fine roots; many very fine and fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

A2—3 to 11 inches; gray (10YR 5/1) clay, black (10YR 2/1) moist; strong very fine granular structure; hard, friable, very sticky, very plastic; many very fine and fine roots; many very fine and fine interstitial, and many very fine tubular pores; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bw1—11 to 20 inches; gray (10YR 6/1) clay, very dark gray (10YR 3/1) moist; weak medium prismatic structure; hard, friable, very sticky, very plastic; common very fine and fine roots; many very fine and fine interstitial and tubular pores; few fine faint dark grayish brown (10YR 4/2) redox concentrations along root channels; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Bw2—20 to 27 inches; gray (10YR 6/1) clay, very dark gray (10YR 3/1) moist; weak medium prismatic structure; very hard, friable, very sticky, very plastic; common very fine and few fine roots; many very fine and few fine tubular pores; common coarse faint gray (N 5/) organic stains; noneffervescent; moderately alkaline (pH 8.2); clear wavy boundary.

C1—27 to 46 inches; gray (10YR 6/1) clay, very dark gray (10YR 3/1) moist; massive; very hard, firm, very sticky, very plastic; few very fine and fine roots; many very fine tubular pores; many medium and coarse distinct light gray (2.5Y 7/2) redox concentrations; common medium faint gray (N 5/) and dark gray (N 4/) organic stains; noneffervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

C2—46 to 62 inches; light gray (2.5Y 7/2) silty clay, grayish brown (2.5Y 5/2) moist; massive; hard, friable, very sticky, very plastic; few very fine roots; few very fine and fine tubular pores; common fine distinct yellowish brown (10YR 5/4) iron concentrations; common medium and coarse distinct gray (N 5/) and dark gray (N 4/) organic stains; noneffervescent; slightly alkaline (pH 7.6).

Type location: Modoc County, California; about 20 feet north of irrigation ditch and 25 feet west of fence on the Bare Ranch; 1,350 feet west and 400 feet north of the SE corner of sec. 34, T.39 N., R.17 E., Mount Diablo base line and meridian; 41 degrees, 11 minutes, 45.9 seconds north latitude and 120 degrees, 01 minute, 27.2 seconds west longitude, NAD27; Snake Lake quadrangle.

Range in Characteristics:

Soil moisture: Saturated between the soil surface and 18 inches during most years unless drained.

Soil temperature: 43 to 46 degrees F.

Mean summer soil temperature: 61 to 63 degrees F.

Mollic epipedon thickness: 10 to 20 inches.

Carbonates: Calcareous throughout most of their upper 20 inches and are slightly calcareous to noncalcareous below the water table.

Reaction: Slightly alkaline or moderately alkaline but ranges to very strongly alkaline in sodic areas. pH values decrease with depth or remain constant.

Redoximorphic features: Redox concentrations and depletions with reddish or yellowish hue, neutral, low chroma, or high chroma are in the lower part of the A horizon or in any part of the Bw and C horizon. Where moist chroma of 2 is present with moist value of 3, the horizon immediately under the mollic epipedon has moist value of 3 or 4 and moist chroma of 1.

Control section:

Texture—Predominantly clay, but ranges to silty clay. Occasional strata of clay loam or silty clay loam occur.

Clay content—Averages 40 to 60 percent.

A horizon:

Hue—10YR or 2.5Y.

Value—4 or 5 dry and 2 or 3 moist.

Chroma—1 or 2.

Structure—Moderate or strong, very fine or fine granular or subangular blocky structure.

Organic matter—2 to 4 percent

Bw horizon:

Hue—10YR or 2.5Y.

Value—6 dry and 3 or 4 moist.

Chroma—1 or 2.

Structure—Weak or moderate, medium or coarse, prismatic or subangular blocky structure.

Organic matter—0.5 to 2 percent

C horizon:

Hue—10YR or 2.5Y, but ranges to 5Y in the lower C horizon.

Value—6 or 7 dry and 3 through 5 moist.

Chroma—1 to 4.

Other features—Redox depletions occur in the lower C horizon of some pedons. One or more buried A horizons, up to 8 inches thick, are present in some pedons.

Organic matter—0.5 to 2 percent

Bidrim series

The Bidrim series consists of shallow, well drained soils that formed in residuum derived from basalt. Bidrim soils are on plateaus. Slopes are 2 to 15 percent. The mean annual precipitation is about 12 inches and the mean annual air temperature is about 45 degrees F.

Taxonomic class: Clayey, smectitic, mesic Lithic Argixerolls

Typical pedon: Bidrim extremely stony loam in an area of Washoe County, NV, North Part, forestland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 25 percent stones, 20 percent cobbles, and 20 percent pebbles. Thin, discontinuous layers of duff and microbiotic crusts are also present.

A1—0 to 1 inch; very dark brown (10YR 2/2) extremely stony loam, black (10YR 2/1) moist; moderate very fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 25 percent stones, 20 percent cobbles, and 20 percent pebbles; neutral (pH 6.8); clear wavy boundary.

A2—1 to 3 inches; dark grayish brown (10YR 4/2) very stony loam, very dark brown (10YR 2/2) moist; moderate very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 15 percent stones, 20 percent cobbles, and 20 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt—3 to 8 inches; brown (7.5YR 4/2) clay loam, dark brown (7.5YR 3/2) moist; moderate fine subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine, common fine, and few medium roots; common fine tubular pores; many distinct clay films on faces of peds and lining pores; vertical cracks 5 to 16 millimeters wide and 5 to 7 inches apart extend through horizon; 10 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Btss—8 to 13 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; moderate medium and coarse angular blocky structure; extremely hard, very firm, very sticky and very plastic; common very fine and few fine, medium and coarse roots; common very fine tubular pores; many distinct and prominent clay films on faces of peds and lining pores; common slickensides; vertical cracks 5 to 16 millimeters wide and 5 to 7 inches apart extend through horizon; 10 percent pebbles; neutral (pH 7.0); clear wavy boundary.

R—13 inches; hard, massive vesicular basalt with few fractures.

Type location: Washoe County, Nevada; about 3.5 miles northeast of Barrel Springs and east of road along powerline; 200 feet west and 1,650 feet south of the northeast corner of section 11, T.46 N., R.18 E.; USGS Barrel Springs 7.5 minute topographic

quadrangle; 41 degrees, 55 minutes, 33 seconds north latitude and 119 degrees, 55 minutes, 35 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from July through October; aridic moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Thickness of mollic epipedon: 7 to 11 inches, includes all or part of the argillic horizon.

Depth to bedrock: 10 to 14 inches to a lithic contact.

Control section:

Clay content—Averages 35 to 45 percent.

Rock fragments—5 to 15 percent, mainly pebbles.

Lithology of fragments are volcanic rocks such as basalt.

A horizons:

Value—2 through 4 dry, 2 or 3 moist.

Chroma—1 or 2, dry or moist.

Organic matter content—6 to 8 percent in the A1 horizon and 3 to 4 percent in the A2 horizon.

Bt horizon:

Hue—10YR or 7.5YR

Value—4 or 5 dry, 2 or 3 moist

Chroma—2 through 4.

Clay content—33 to 40 percent.

Rock fragments—5 to 15 percent, mainly pebbles.

Organic matter content—1 to 3 percent.

Other features—Vertical cracks 5 to 20 millimeters wide when dry.

Btss horizon:

Hue—10YR or 7.5YR.

Value—3 or 4 moist.

Chroma—2 through 4, dry or moist.

Clay content—55 to 65 percent.

Rock fragments—5 to 10 percent, mainly pebbles.

Structure—Angular blocky or wedge.

Other features—Few to common slickensides; vertical cracks 5 to 20 millimeters wide when dry.

Bidwell series

The Bidwell series consists of very deep, well drained soils on fan remnants. They formed in ashy alluvium from tuffaceous rocks. Slopes range from 0 to 5 percent. The mean annual precipitation is about 12 inches; mean annual air temperature is about 49 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Argixerolls

Typical pedon: Bidwell ashy loam in an area of map unit 310, cultivated. (Colors are for dry soil unless otherwise noted).

Ap1—0 to 4 inches; grayish brown (10YR 5/2) ashy loam, very dark grayish brown (10YR 3/2) moist; moderate medium and fine subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; many very fine roots; many very fine interstitial and few very fine and fine tubular pores; neutral (pH 6.8); clear smooth boundary.

Ap2—4 to 10 inches; grayish brown (10YR 5/2) ashy clay loam, very dark grayish brown (10YR 3/2) moist; weak medium prismatic structure parting to moderate medium subangular blocky; hard, friable, moderately sticky, moderately plastic; many very fine roots; many very fine interstitial and common very fine and fine tubular pores; neutral (pH 6.8); clear wavy boundary.

Bt1—10 to 22 inches; grayish brown (10YR 5/2) ashy clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky, moderately plastic; many very fine roots; many very fine interstitial and few very fine tubular pores; few thin clay films on faces of peds and many thin clay films lining pores; 10 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt2—22 to 32 inches; grayish brown (10YR 5/2) ashy clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky, moderately plastic; common very fine roots; common very fine and fine tubular and many very fine interstitial pores; few thin clay films on faces of peds and many thin clay films lining pores; neutral (pH 7.2); clear wavy boundary.

Btk—32 to 46 inches; brown (10YR 5/3) gravelly ashy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, friable, slightly sticky, slightly plastic; common very fine roots; few very fine tubular and many very fine interstitial pores; few thin clay films on faces of peds and lining pores; few fine lime segregations; 25 percent gravel; slightly alkaline (pH 7.6); clear wavy boundary.

Bk—46 to 73 inches; pale brown (10YR 6/3) gravelly ashy loam, brown (10YR 4/3) moist; massive; very hard, friable, slightly sticky, slightly plastic; few very fine roots; few very fine tubular and common very fine interstitial pores; 25 percent gravel; noncalcareous in matrix, strongly calcareous in common fine distinct lime segregations; moderately alkaline (pH 8.2).

Type location: Modoc County, California; 1.25 miles north of junction of California Highway 299 and the Surprise Valley road; about 1,400 feet north and 1,400 feet west of SE corner sec. 32, T.43 N., R.16 E.; 41 degrees, 32 minutes, 51.2 seconds north latitude and 120 degrees, 10 minutes, 3.4 seconds west longitude, NAD27; Cedarville quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring.

Aridic bordering xeric soil moisture regime.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon: 10 to 16 inches thick.

Depth to calcium carbonate: 20 to 40 inches.

Depth to the base of the argillic horizon: 30 to 48 inches.

Control section:

Clay content—18 to 35 percent.

Rock fragments—0 to 10 percent gravel. Lithology of the fragments is mostly tuff.

A horizon:

Value—4 or 5 dry.

Chroma—1 or 2.

Structure—Moderate or strong, platy, granular or subangular blocky structure.

Organic matter—1 to 3 percent.

Bt horizon:

Value—3 or 4 moist.

Chroma—1 to 3.

Texture—Ashy loam or ashy clay loam.

Rock fragments—0 to 10 percent gravel.

Structure—Moderate or strong prismatic, angular blocky or subangular blocky structure.

Reaction—Slightly acid to moderately alkaline and becomes more alkaline as depth increases.

Btk horizon:

Value—5 or 6 dry.

Chroma—3 or 4.

Texture—Ashy loam.

Clay content—18 to 27 percent.

Rock fragments—0 to 30 percent.

Carbonates—Lime segregations are less than 5 percent of any horizon.

Reaction—Slightly alkaline or moderately alkaline.

Bk horizon:

Value—5 or 6 dry.

Chroma—3 or 4.

Texture—Ashy loam or ashy sandy loam.

- Clay content—10 to 27 percent.
- Rock fragments—5 to 35 percent.
- Structure—Massive or has weak fine or medium subangular blocky structure.
- Carbonates—Lime segregations are less than 5 percent of any horizon.
- Reaction—Slightly alkaline or moderately alkaline.

Bieber series

The Bieber series consists of very shallow and shallow to a duripan, well drained or moderately well drained soils that formed in alluvium derived from volcanic rocks. Bieber soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Argiduridic Durixerolls

Typical pedon: Bieber gravelly loam in an area of Modoc County, CA, Alturas Area, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 6 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial and tubular pores; 15 percent gravel; slightly acid (pH 6.5); clear smooth boundary.

Bt1—6 to 13 inches; dark grayish brown (10YR 4/2) gravelly clay loam, dark brown (10YR 3/3) moist; moderate medium angular blocky structure; hard, very friable, moderately sticky and slightly plastic; few very fine roots; common very fine interstitial and few very fine tubular pores; common faint clay films as bridges between mineral grains; 15 percent gravel; slightly acid (pH 6.5); abrupt smooth boundary.

Bt2—13 to 18 inches; brown (7.5YR 4/4) gravelly clay, brown (7.5YR 4/4) moist; strong coarse angular blocky structure; very hard, very friable, very sticky and moderately plastic; few very fine roots; few very fine interstitial and few very fine tubular pores; 15 percent gravel concentrated at the top of the horizon; white (N 8/) dry and moist silica masses on bottoms of gravel; common distinct clay films on faces of peds and many distinct clay films lining pores; neutral (pH 7.0) abrupt smooth boundary.

2Bqkm1—18 to 22 inches; light brown (7.5YR 6/4) cemented material; moderate thick platy structure;

indurated by secondary silica with 1 to 2 mm thick continuous laminar caps on the upper surface and cemented bands 1 to 2 cm apart below; 40 percent rounded gravel; strongly effervescent; secondary carbonates segregated in fine filaments; abrupt smooth boundary.

2Bqkm2—22 to 31 inches; light brown (7.5YR 6/4) cemented material; massive; indurated by secondary silica; 60 percent rounded gravel and 10 percent cobbles; strongly effervescent; secondary carbonates segregated as masses on bottoms of gravel; opaline silica segregated as concretions (pendants) on bottoms of gravel; clear smooth boundary.

2Bqkm3—31 to 60 inches; light brown (7.5YR 6/4) cemented material; massive; indurated by secondary silica; 60 percent rounded gravel and 10 percent cobbles; strongly effervescent; secondary carbonates segregated in fine masses in the matrix, as filaments in the matrix, and as masses on bottom of gravel; fewer pebbles are coated than in above horizon; opaline silica segregated as concretions (pendants) on bottoms of gravel.

Type location: Modoc County, California; about 5.5 miles southeast of Alturas; on the east side of a small gravel pit 400 feet east and 920 feet south of the center of section 27, T.42 N., R.13 E.; USGS Dorris Reservoir 7.5 minute topographic quadrangle; 41 degrees, 26 minutes, 54 seconds north latitude and 120 degrees, 27 minutes, 17 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soil between depths of 4 to 12 inches or to top of duripan is dry in all parts from about June 1 to November 15; It is moist in some or all parts when above 47 degrees F. from April 1 to June 15; The soil temperature is about 41 degrees F. from February 15 to December 15. The soil temperature at depth of 20 inches exceeds 47 degrees F from about April 1 to November 15; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 50 to 55 degrees F.

Mollic epipedon thickness: 7 to 15 inches; includes the Bt1 horizon.

Depth to duripan: 8 to 20 inches.

Depth to bedrock: More than 60 inches.

Particle-size control section:

Clay content—Averages 35 to 45 percent.

Rock fragments—Averages 10 to 25 percent, mainly gravel and up to 5 percent cobbles. Lithology of fragments are volcanic rocks such as andesite, basalt, and tuff.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry.

Chroma—2 or 3.

Structure—Weak to moderate platy, granular, or subangular blocky.

Consistence—Slightly hard or hard.

Reaction—Slightly acid or neutral.

Organic matter content—1 or 2 percent.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry.

Chroma—2 or 3.

Texture—Clay loam, clay, gravelly clay loam, or gravelly clay.

Clay content—27 to 45 percent.

Rock fragments—5 to 35 percent.

Structure—Moderate or weak subangular blocky, angular blocky, or platy.

Reaction—Slightly acid or neutral.

Organic matter content—1 or 2 percent.

Bt2 horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Clay loam, clay, gravelly clay loam, or gravelly clay.

Clay content—35 to 45 percent.

Rock fragments—5 to 25 percent.

Structure—Strong or moderate prismatic or strong angular blocky.

Consistence—Moderately sticky or very sticky, wet.

Reaction—Slightly acid through moderately alkaline.

Bighat series

The Bighat series consists of very deep, well drained soils that formed in alluvium derived from mixed rocks. Bighat soils are on beach terraces. Slopes are 4 to 15 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Natrargids

Typical pedon: Bighat very stony sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; light gray (10YR 7/2) very stony sandy loam, brown (10YR 4/3) moist; strong thick and very thick platy structure; hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine and fine vesicular pores; 15 percent stones, 10 percent cobbles, and 15 percent pebbles; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

A2—2 to 6 inches; very pale brown (10YR 8/2) stony loam, yellowish brown (10YR 5/4) moist; strong medium and thick platy structure; hard, very friable, moderately sticky and slightly plastic; common very fine and few fine roots; many very fine vesicular pores; 10 percent stones, 5 percent cobbles; and 15 percent pebbles; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

A3—6 to 9 inches; very pale brown (10YR 7/3) and very pale brown (10YR 8/2) stony loam, dark yellowish brown (10YR 4/4) moist; strong very thick platy structure; hard, very friable, very sticky and moderately plastic; common very fine and fine roots; many very fine tubular pores; 5 percent stones, 5 percent cobbles, and 20 percent pebbles; slightly effervescent; strongly alkaline (pH 8.5); abrupt wavy boundary.

Btn—9 to 16 inches; light yellowish brown (10YR 6/4) stony sandy clay loam, yellowish brown (10YR 5/4) moist; moderate fine and medium prismatic structure parting to strong medium and coarse angular blocky; very hard, friable, moderately sticky and moderately plastic; common very fine, few fine roots; few very fine tubular pores; common faint and distinct clay films on faces of peds and lining pores; 10 percent stones, 5 percent cobbles; and 15 percent pebbles; slightly effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Bqk1—16 to 31 inches; brown (10YR 5/3) extremely stony coarse sand, brown (10YR 4/3) moist; massive; hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 30 percent stones, 10 percent cobbles, and 35 percent pebbles; common thin silica coats bridging mineral grains; 0.5 millimeter thick carbonate and silica coats on underside of rock fragments; 5 percent large soft masses of secondary carbonate surrounding some cobbles and some 2 inch pebbles and on sides of stones; few 0.5 to 1.0 millimeter thick discontinuous laminae of secondary silica; violently effervescent; strongly alkaline (pH 8.5); gradual wavy boundary.

3Bqk2—31 to 60 inches; brown (10YR 5/3) extremely gravelly coarse sand, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; no roots observed; many very fine interstitial pores; 5 percent stones, 10 percent

cobbles, and 60 percent pebbles; few thin silica coats bridging mineral grains; common carbonate and silica coats on underside of rock fragments; 2 percent large soft masses of secondary carbonate; violently effervescent; strongly alkaline (pH 9.0)

Type location: Washoe County, Nevada; about 10 miles southwest of Vya and 3,500 feet south of Bull Creek; 1,800 feet east and 2,400 feet north of the southwest corner of section 16, T.41 N., R.18 E.; USGS Big Hat Mountain 7.5 minute topographic quadrangle; 41 degrees, 28 minutes, 24 seconds north latitude and 119 degrees, 58 minutes, 45 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist for brief periods in winter, dry from late May through November; typical arid moisture regime.

Soil temperature: 47 to 53 degrees F.

Depth to base of natric horizon and strongly contrasting horizons: 15 to 27 inches.

Control section:

Clay content—Averages 25 to 35 percent in the upper part and 0 to 2 percent in the contrasting lower part.

Rock fragments—20 to 30 percent stones, cobbles and pebbles in the upper part, 60 to 75 percent stones, cobbles and pebbles in the lower part.

Lithology of fragments is mixed.

A horizons:

Hue—10YR or 2.5Y.

Reaction—Moderately alkaline or strongly alkaline.

Btn horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—25 to 35 percent.

Texture—Stony clay loam or stony sandy clay loam.

Structure—Prismatic parting to angular blocky or subangular blocky.

Reaction—Moderately alkaline or strongly alkaline.

Consistence—Hard or very hard dry, friable or very friable moist.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—13 to 45.

Effervescence—Slightly effervescent to violently effervescent.

Other features—Some pedons have few fine and medium soft masses of secondary carbonate.

2Bqk horizons:

Value—5 through 8 dry, 4 through 6 moist.

Chroma—3 or 4, dry or moist.

Clay content—0 to 2 percent.

Texture—Extremely stony or extremely cobbly sand or coarse sand.

Structure—Single grain or massive.

Rock fragments—60 to 80 percent, mainly stones and cobbles.

Reaction—Moderately alkaline or strongly alkaline.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—5 to 20.

Effervescence—Strongly effervescent or violently effervescent in the matrix.

Identifiable secondary carbonates—Few to many fine to coarse soft masses of secondary carbonate; common or many fine or medium carbonate coats on undersides of rock fragments.

Calcium carbonate equivalent—5 to 10 percent.

3Bqk horizons:

Value—5 through 8 dry, 4 through 6 moist.

Chroma—3 or 4, dry or moist.

Clay content—0 to 2 percent.

Texture—Extremely gravelly sand or extremely gravelly coarse sand.

Structure—Single grain or massive.

Rock fragments—60 to 80 percent, mainly pebbles; includes 5 to 15 percent stones and 5 to 15 percent cobbles.

Reaction—Moderately alkaline or strongly alkaline.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—5 to 20.

Effervescence—Strongly effervescent or violently effervescent in matrix.

Identifiable secondary carbonates—Few to many fine to coarse soft masses of secondary carbonate; common or many fine or medium carbonate coats on undersides of rock fragments.

Calcium carbonate equivalent—5 to 10 percent.

Bitner series

The Bitner series consists of moderately deep, well drained soils formed in residuum and colluvium from tuff breccia and pyroclastic rocks. The Bitner soils are on plateau shoulder slopes. Slopes are 4 to 30 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Haploxerolls

Typical pedon: Bitner gravelly ashy sandy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent cinders, 5 percent obsidian, and 5 percent rhyolitic pebbles.

A1—0 to 2 inches; brown (10YR 5/3) gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 20 percent cinders, volcanic glass and rhyolitic pebbles; slightly acid (pH 6.1); clear wavy boundary.

A2—2 to 7 inches; brown (10YR 5/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine and fine roots; many very fine interstitial pores; 15 percent cinders and glassy vitric pyroclastic pebbles; slightly acid (pH 6.4); clear wavy boundary.

Bw—7 to 13 inches; brown (10YR 5/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; moderate coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine and medium roots; many very fine tubular and interstitial pores; 15 percent cinders and glassy vitric pyroclastic pebbles; 5 percent rhyolitic pebbles; neutral (pH 7.2); clear wavy boundary.

Bq1—13 to 19 inches; yellowish brown (10YR 5/4) gravelly ashy sandy loam, dark yellowish brown (10YR 3/4) moist; weak coarse subangular blocky structure; slightly hard and hard, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial and common very fine tubular pores; 20 percent cinders and glassy vitric pyroclastic pebbles; 5 percent rhyolitic pebbles; 5 percent 5 to 20 millimeter hard, firm durinodes with few fine strong brown (7.5YR 4/6) iron stains, black (10YR 2/1) moist; 15 percent hard, firm and brittle 2 to 5 centimeter nodules that slake in water; slightly alkaline (pH 7.4); clear wavy boundary.

Bq2—19 to 27 inches; yellowish brown (10YR 5/4) gravelly ashy sandy loam, dark yellowish brown (10YR 3/4) moist; weak medium and coarse subangular blocky structure; slightly hard and hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial and common very fine tubular pores; 25 percent cinders and glassy vitric pyroclastic pebbles; 5 percent rhyolitic pebbles; 5 percent 5 to 20 millimeter hard, firm durinodes with few fine strong brown (7.5YR 4/6) iron stains, black (10YR 2/1) moist; 15 percent hard, firm and brittle 2

to 5 centimeter nodules that slake in water; slightly alkaline (pH 7.6); abrupt wavy boundary.
Cr—27 to 35 inches; highly weathered and fractured tuff breccia with few fine roots in some fractures; many 1 to 5 millimeter glass and vitric pyroclastic pebbles in matrix; many moderately thick glass coats.

Type location: Washoe County, Nevada. On the east side of Massacre Mountain; unsurveyed. T.42 N., R.22 E.; 41 degrees, 33 minutes, 23 seconds north latitude and 119 degrees, 32 minutes, 30 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from July through October.

Soil temperature: 47 to 51 degrees F.

Depth to bedrock: 20 to 40 inches.

Mollic epipedon: 10 to 20 inches.

Mineralogy: 50 to 90 percent volcanic glass, glass coats and glass aggregates in the very fine and fine sand size throughout; 40 to 60 percent are glass shards

Reaction: Slightly acid or neutral in the upper part, neutral or slightly alkaline in the lower part.

Control section:

Clay content—12 to 18 percent.

Rock fragments—15 to 30 percent pebbles that are dominantly cinders when mixed.

A horizons:

Value—5 or 6 dry, 2 or 3 moist. Dry value of 6 is only in the surface 2 inches of some pedons.

Chroma—2 or 3.

Bw horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Bq horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Other features—Up to 15 percent 2 to 10 centimeter durinodes, some pedons have 1 to 2 inch thick 2C horizons immediately above the Cr that are extremely gravelly sandy loam.

Bombadil series

The Bombadil series consists of very shallow and shallow, well drained soils that formed in residuum derived from volcanic rocks. Bombadil soils are on

plateaus. Slopes are 4 to 30 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy, mixed, superactive, mesic
Lithic Xeric Haplargids

Typical pedon: Bombadil stony fine sandy loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered by approximately 20 percent pebbles, 10 percent cobbles, and 7 percent stones.

A—0 to 2 inches; light brownish gray (10YR 6/2) stony fine sandy loam, brown (10YR 4/3) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; very few fine roots; many fine vesicular pores; 5 percent stones, 5 percent cobbles, and 10 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt1—2 to 6 inches; brown (10YR 5/3) loam, brown (10YR 4/3) moist; weak coarse prismatic structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, fine, medium and coarse roots; many very fine interstitial, and many very fine, fine and medium tubular pores; common faint and few distinct clay films on faces of peds and lining pores; 10 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt2—6 to 10 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; weak coarse prismatic structure parting to weak fine subangular blocky; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, fine, medium, and coarse roots; many very fine interstitial and many very fine, fine, and medium tubular pores; common faint and few distinct clay films on faces of peds and lining pores; 10 percent pebbles; neutral (pH 7.2); abrupt wavy boundary.

R—10 inches; basalt; highly fractured in the upper 4 inches with common very fine and fine roots, fine-earth, and discontinuous silica and secondary carbonates lining fractures.

Type location: Washoe County, Nevada; about 2,200 feet south and 700 feet east of the northwest corner of section 5, T.27 N., R.19 E.; USGS Flanigan 7.5 minute topographic quadrangle; 40 degrees, 14 minutes, 22 seconds north latitude and 119 degrees, 52 minutes, 53 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and early autumn; arid moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 53 degrees F.

Ochric epipedon thickness: 1 to 5 inches.

Depth to base of argillic horizon: 7 to 14 inches.

Depth to bedrock: 7 to 14 inches to a lithic contact.

Reaction: Neutral or slightly alkaline.

Particle-size control section:

Clay content—18 to 27 percent.

Rock fragments—10 to 25 percent. Lithology of fragments are volcanic rocks such as basalt.

A horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist; some pedons have 2 in the upper part.

Texture—Loam or gravelly loam.

Clay content—18 to 27 percent.

Rock fragments—10 to 25 percent.

Bt2 horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Loam, clay loam, or gravelly clay loam.

Clay content—25 to 35 percent.

Rock fragments—10 to 20 percent.

Consistence—Very friable or friable, slightly sticky or moderately sticky, slightly plastic or moderately plastic.

Boulder Lake series

The Boulder Lake series consists of very deep, somewhat poorly drained soils that formed in alluvium derived mainly from volcanic rocks. Boulder Lake soils are on lake plains. Slopes are 0 to 2 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine, smectitic, frigid Xeric
Epiaquerts

Typical pedon: Boulder Lake clay in an area of map unit 318, rangeland. (Colors are for moist soil unless otherwise noted.)

A—0 to 2 inches; very dark grayish brown (10YR 3/2) clay, grayish brown (10YR 5/2) dry; strong very fine and fine granular structure; slightly hard, friable, very sticky and very plastic; root crowns only; many very fine and fine interstitial pores; slightly acid (pH 6.4); abrupt smooth boundary.

Bw—2 to 4 inches; dark grayish brown (10YR 4/2) clay, grayish brown (10YR 5/2) dry; moderate medium prismatic structure; slightly hard, friable, very sticky and very plastic; few very fine, fine and medium roots; many very fine and fine interstitial pores; neutral (pH 6.6); abrupt wavy boundary.

Bss1—4 to 6 inches; dark grayish brown (10YR 4/2) clay, grayish brown (10YR 5/2) dry; moderate coarse prismatic structure and strong very fine and fine angular blocky; slightly hard, friable, very sticky and very plastic; many very fine, few fine and medium roots; few very fine and fine tubular, and many very fine and fine interstitial pores; few slickensides; neutral (pH 6.6); clear wavy boundary.

Bss2—6 to 24 inches; dark grayish brown (10YR 4/2) clay, light brownish gray (10YR 6/2) dry; moderate medium prismatic structure; very hard, firm, very sticky and very plastic; few very fine, fine and medium roots; few fine tubular, and many very fine interstitial pores; common slickensides; few fine and medium distinct brown (7.5YR 4/4) and very dark brown (7.5YR 2.5/2) masses of iron and manganese accumulation; neutral (pH 6.8); gradual smooth boundary.

Bss3—24 to 62 inches; dark grayish brown (10YR 4/2) clay, light brownish gray (10YR 6/2) dry; weak coarse prismatic structure and strong medium through very coarse angular blocky; very hard, firm, very sticky and very plastic; few fine and medium roots; few fine tubular, and many very fine interstitial pores; common slickensides; common fine distinct brown (7.5YR 4/4) and dark brown (7.5YR 3/4) masses of iron accumulation; few fine and medium faint very dark brown (10YR 2/2) masses of manganese accumulation; neutral (pH 6.8).

Type location: Washoe County, Nevada; about 0.75 mile west of Boulder Lake; near the center of section 9, T.40 N., R.19 E.; USGS Boulder Lake 7.5 minute topographic quadrangle; 41 degrees, 23 minutes, 44 seconds north latitude and 119 degrees, 51 minutes, 33 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually ponded for less than 45 consecutive days in most years, mainly in the spring; brief ponding occurs after intensive rainfall. Saturated to a depth of 30 to 60 inches in late winter and spring; Seasonal periods of aquic moisture regime when the soil moisture control section is saturated and reduced.

Mean annual soil temperature: 43 to 47 degrees F.

Mean summer soil temperature: 62 to 64 degrees F.

Effervescence: Noneffervescent or slightly effervescent but ranges to strongly effervescent in some pedons where few to common, very fine to medium filaments or masses of carbonate occur below depths of 20 inches.

Particle-size control section:

Clay content—Averages 40 to 60 percent.

Other features—Reversible trans-horizon cracks are normally open to the soil surface during summer and early fall, are up to 3 inches wide, and are 3 to 6 inches apart. They decrease in width with increasing depth. Cracks remain open for fewer than 180 consecutive days.

A horizon:

Hue—10YR or 2.5Y.

Value—3 through 5 moist, 5 or 6 dry.

Chroma—2 or 3 moist, 1 through 3 dry.

Reaction—Slightly acid through slightly alkaline.

Bw horizon and Bss horizons:

Hue—10YR through 5Y.

Chroma—2 or 3, moist or dry; Some pedons have dry chroma of 1 in the Bss1 horizon; dominantly chroma 2 or less above 20 inches.

Texture—Clay or silty clay.

Structure—Moderate or strong, medium to very coarse prismatic, very fine to very coarse angular blocky in the upper part and weak to strong, medium to very coarse prismatic and moderate or strong, medium to very coarse angular in the lower subhorizons.

Consistence—Very hard or extremely hard, dry; firm or very firm, moist; may be slightly hard and friable in the upper subhorizon.

Redoximorphic features—Few or common, very fine to medium, distinct or prominent, redox concentrations of iron and manganese with reddish, yellowish and brownish colors that have hue of 10YR through 5YR and chroma of 2 through 6.

Reaction—Neutral through moderately alkaline.

Vertic features—Few to many slickensides and many pressure cutans. Soil is interpreted as having reduced matrix colors and redox concentrations due to saturation.

Boulderfan series

The Boulderfan series consists of very deep, well drained soils that formed in alluvium derived from andesite and andesitic tuff. Boulderfan soils are on mountain valleys. Slopes are 2 to 8 percent. The mean annual precipitation is about 25 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy-skeletal, glassy Vitrandic Argicryolls

Typical pedon: Boulderfan ashly loam in an area of map unit 319, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; brown (10YR 5/3) ashly loam, very dark grayish brown (10YR 3/2) moist; weak very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 10 percent hard volcanic pebbles; moderately acid (pH 6.0); abrupt wavy boundary.

A2—3 to 10 inches; brown (10YR 5/3) ashly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and common fine roots; many very fine tubular pores; 10 percent hard volcanic pebbles; moderately acid (pH 6.0); clear wavy boundary.

2Bt1—10 to 26 inches; brown (10YR 5/3) extremely cobbly ashly loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, common fine and few medium and coarse roots; many very fine and fine tubular pores; common distinct clay films on faces of peds and bridging mineral grains; 10 percent stones; 40 percent cobbles and 15 percent hard volcanic pebbles; slightly acid (pH 6.4); abrupt wavy boundary.

3Bt2—26 to 35 inches; light yellowish brown (10YR 6/4) ashly loam, brown (10YR 4/3) moist; weak coarse angular blocky structure; hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; common distinct clay films on faces of peds and bridging

mineral grains; 10 percent hard volcanic pebbles; slightly acid (pH 6.4); gradual smooth boundary.
3Bt3—35 to 44 inches; very pale brown (10YR 7/3) ashly clay loam, brown (10YR 4/3) moist; moderate medium and coarse angular blocky structure; hard, very friable, moderately sticky and moderately plastic; few fine roots; common very fine tubular pores; 5 percent 2 to 5 millimeter prominent reddish yellow (7.5YR 6/6) dry, strong brown (7.5YR 4/6) moist masses of iron accumulation in the matrix and lining pores; common distinct clay films on faces of peds and bridging mineral grains; 10 percent hard volcanic pebbles; slightly acid (pH 6.4); clear smooth boundary.

3C—44 to 60 inches; very pale brown (10YR 8/2) ashly clay loam, dark yellowish brown (10YR 4/4) moist; weak fine prismatic structure; hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; 5 percent 2 to 5 millimeter prominent reddish yellow (7.5YR 6/6) dry, strong brown (7.5YR 4/6) moist masses of iron accumulation in the matrix and lining pores; 10 percent hard volcanic pebbles; slightly acid (pH 6.4).

Type location: Modoc County, California; on the Modoc National Forest just south of the Patterson Guard Station road and about a mile north of Camp One Spring; about 500 feet north and 600 feet west of the southeast corner of section 3, T.38 N., R.16 E.; USGS Emerson Peak 7.5 minute topographic quadrangle; 41 degrees, 11 minutes, 11.5 seconds north latitude and 120 degrees, 08 minutes, 10.3 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring, dry in late summer and fall; completely dry for at least 45 consecutive days between July and October; xeric moisture regime. Endosaturation is present with an apparent seasonal high water table between 3.5 and 5 feet (common deep free water duration and depth class) from January through May.

Mean annual soil temperature: 41 to 46 degrees F.

Mean summer soil temperature: 54 to 59 degrees F.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 25 to 30 inches.

Other features: Lithology of rock fragments is tuff and andesite.

Control section:

Clay content—Averages 20 to 27 percent.

Rock fragments—When mixed, averages 35 to 70 percent; 60 to 80 percent in the upper part, dominantly cobbles and stones; 10 to 15 percent gravel in the lower part.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.
 Chroma—2 or 3, dry or moist.
 Rock fragments—10 to 15 percent; mostly gravel and cobbles.
 Clay content—8 to 15 percent.
 Reaction—Moderately acid to slightly acid.
 Structure—Weak or moderate, very fine to medium, subangular blocky.
 Consistence—Soft or slightly hard.

2Bt1 horizon:

Hue—7.5YR or 10YR.
 Value—4 or 5 dry, 3 or 4 moist.
 Chroma—2 or 3.
 Texture—Ashy loam.
 Rock fragments—60 to 80 percent, dominantly cobbles and stones.
 Reaction—Slightly acid to neutral.

3Bt2 and 3Bt3 horizons:

Hue—7.5YR or 10YR.
 Value—6 or 7 dry, 3 or 4 moist.
 Chroma—3 or 4, dry or moist.
 Rock fragments—10 to 15 percent, dominantly gravel.
 Reaction—Slightly acid to neutral.

C horizon:

Hue—10YR or 7.5YR.
 Value—6 through 8 dry, 4 through 6 moist.
 Chroma—2 through 4, dry or moist.
 Reaction—Slightly acid to neutral.

Bregar series

The Bregar series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from andesite and tuff. Bregar soils are on hills and plateaus. Slopes are 2 to 8 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Lithic Xeric Haplargids

Typical pedon: Bregar extremely cobbly loam in an area of map unit 320, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is

covered with 1 percent stones, 35 percent cobbles, and 30 percent pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) extremely cobbly loam, brown (10YR 4/3) moist; strong thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine vesicular pores; 30 percent pebbles, 35 percent cobbles; slightly alkaline (pH 7.4); abrupt wavy boundary.

A2—2 to 6 inches; pale brown (10YR 6/3) extremely cobbly loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine vesicular and tubular pores; 30 percent pebbles, 35 percent cobbles; slightly alkaline (pH 7.4); clear smooth boundary.

Bt—6 to 12 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine to medium roots; common very fine tubular pores; many thin clay films lining pores and on faces of peds; 20 percent pebbles, 30 percent cobbles; slightly alkaline (pH 7.4) abrupt wavy boundary.

R—12 inches; andesitic tuff.

Type location: Washoe County, Nevada; 900 feet east and 2,500 feet north of the southwest corner of section 35, T.41 N, R.18 E.; 41 degrees, 25 minutes, 57 seconds north latitude, 119 degrees, 56 minutes, 15 seconds west longitude NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring; dry late June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 41 to 46 degrees F.

Depth to base of argillic horizon: 5 to 12 inches.

Depth to bedrock: 5 to 12 inches to a lithic contact. The upper 3 inches of bedrock is weathered to various degrees in some pedons.

Control section:

Clay content—Averages 18 to 30 percent.

Rock fragments—Averages 35 to 70 percent, mainly pebbles and cobbles. Lithology of fragments is mainly volcanic rocks such as andesite.

Reaction—Slightly acid to slightly alkaline.

Other features—Some pedons have transitional horizons between the epipedon and the argillic horizon up to 5 inches thick.

A horizon:

Value—5 through 7 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Bt horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly clay loam, extremely cobbly clay loam, very cobbly clay loam, very gravelly sandy clay loam or extremely cobbly sandy clay loam. Extremely gravelly loam or extremely cobbly loam is in some pedons.

Clay content—25 to 35 percent.

Rock fragments—50 to 75 percent, mainly pebbles and cobbles with up to 15 percent stones.

Structure—Weak or moderate, fine or medium, angular or subangular blocky.

Consistence—Slightly hard to very hard dry, friable to very firm, moist, slightly sticky to very sticky, slightly plastic to very plastic wet.

Other features—Lower boundary is broken, irregular, or wavy.

Brownsbowl series

The Brownsbowl series consists of very deep, well drained soils that formed in volcanic ash and colluvium derived from andesite. Brownsbowl soils are on plateaus and mountains. Slopes are 8 to 50 percent. The mean annual precipitation is about 15 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy, glassy Vitrandic Haplocryolls

Typical pedon: Brownsbowl gravelly ashy sandy loam in an area of map unit 321, rangeland (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; dark grayish brown (10YR 4/2) gravelly ashy sandy loam, black (10YR 2/1) moist; moderate very fine granular structure; soft, very friable, nonsticky, nonplastic; many very fine and fine and common medium and coarse roots throughout; many very fine and fine interstitial pores; 5 percent fine gravel and 10 percent gravel; neutral, pH 6.8; abrupt wavy boundary.

A2—3 to 10 inches; dark grayish brown (10YR 4/2) gravelly ashy sandy loam, black (10YR 2/1) moist; strong fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine and fine and common medium and coarse roots throughout; many very fine interstitial and tubular pores; 10

percent fine gravel and 5 percent gravel; neutral, pH 6.6; abrupt wavy boundary.

A3—10 to 19 inches; dark grayish brown (10YR 4/2) gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine and common fine to coarse roots throughout; common fine tubular and many very fine interstitial and tubular pores; 10 percent fine gravel and 5 percent gravel; slightly acid, pH 6.4; clear wavy boundary.

A4—19 to 28 inches; brown (10YR 4/3) gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine and common fine to very coarse roots throughout; few fine tubular and many very fine interstitial and tubular pores; 10 percent fine gravel and 5 percent gravel, 5 percent cobbles; slightly acid, pH 6.1; clear wavy boundary.

A5—28 to 34 inches; brown (10YR 4/3) cobbly ashy sandy loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine and common fine to very coarse roots throughout; few fine tubular and many very fine interstitial and tubular pores; 10 percent fine gravel and 5 percent gravel, 10 percent cobbles; moderately acid, pH 6.0; clear wavy boundary.

2A6—34 to 41 inches; brown (10YR 4/3) very cobbly ashy sandy loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine and common fine to coarse roots throughout; many very fine interstitial and tubular pores; 10 percent fine gravel and 15 percent gravel, 15 percent cobbles; moderately acid, pH 6.0; clear wavy boundary.

2Bw—41 to 61 inches; yellowish brown (10YR 5/4) extremely cobbly ashy fine sandy loam, dark yellowish brown (10YR 3/4) moist; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine and common fine to coarse roots throughout; many very fine interstitial pores; 5 percent fine gravel and 25 percent gravel, 30 percent cobbles, 1 percent stones; moderately acid, pH 6.0.

Type location: Washoe County, Nevada; in the Hays Canyon Range; about 1/2 mile west of Mountain View Spring; unsectionized, T.39 N., R.18 E.; USGS Hayes Canyon 7.5 minute topographic quadrangle; 41 degrees, 17 minutes, 50.1 seconds north latitude

and 119 degrees, 54 minutes, 31.6 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in late summer and fall; completely dry for at least 45 consecutive days between July and October; xeric moisture regime that borders on aridic.

Mean annual soil temperature: 44 to 47 degrees F.

Mean summer soil temperature: 54 to 59 degrees F.

Mollic epipedon thickness: 40 to 45 inches.

Depth to very cobbly or extremely cobbly lithologic discontinuity: 27 to 40 inches.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Control section:

Clay content—5 to 10 percent.

Rock fragments—Averages 20 to 35 percent hard volcanic rocks.

A horizons:

Structure—Subangular blocky or weak angular blocky, upper subhorizons are granular in some pedons.

Rock fragments—15 to 20 percent gravel, 0 to 15 percent cobbles.

Reaction—Neutral to moderately acid, commonly decreasing with depth.

2A horizons:¶

Structure—Weak or moderate subangular blocky.

Rock fragments—20 to 30 percent gravel, 15 to 25 percent cobbles.

Reaction—Moderately acid or slightly acid.

2Bw horizon:

Value—5 or 6 dry.

Chroma—3 or 4, dry or moist.

Structure—Weak angular blocky or weak or moderate subangular blocky.

Consistence—Soft to hard dry.

Rock fragments—30 to 40 percent gravel, 25 to 45 percent cobbles; 1 to 5 percent stones.

Reaction—Moderately acid or slightly acid.

Brubeck series

The Brubeck series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from volcanic rocks. Brubeck soils are on plateaus. Slopes are 4 to 8 percent. The mean annual

precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Fine, smectitic, mesic Aridic Haploxererts

Typical pedon: Brubeck very cobbly clay in an area of Susanville Area Parts of Lassen & Plumas Counties, CA, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 2 inches; grayish brown (10YR 5/2) very cobbly clay, dark grayish brown (10YR 4/2) moist; strong very fine granular structure; hard, very friable, very sticky and very plastic; common very fine roots; many very fine interstitial pores; 5 percent pebbles, 35 percent cobbles, and 5 percent stones; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bw—2 to 6 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; moderate fine and medium angular blocky structure; soft, very friable, very sticky and very plastic; many very fine and few fine roots; many very fine interstitial pores; vertical cracks 10 to 20 mm wide and about 4 to 6 inches apart; moderately alkaline (pH 8.1); clear wavy boundary.

Bss—6 to 23 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; strong medium and coarse prismatic structure parting to strong medium and coarse angular blocky; very hard, friable, very sticky and very plastic; few very fine, fine, and common medium roots; common very fine tubular pores; vertical cracks 10 to 15 mm wide and about 4 to 6 inches apart; many intersecting slickensides bounding common wedge-shaped peds tilted 30 to 60 degrees from the horizontal; slightly effervescent; strongly alkaline (pH 8.5); clear wavy boundary.

Bssk—23 to 32 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; moderate medium and coarse angular blocky structure; very hard, friable, very sticky and very plastic; few very fine and few fine roots; common very fine tubular pores; vertical cracks 10 to 15 mm wide about 4 to 6 inches apart; many intersecting slickensides bounding common wedge-shaped peds tilted 30 to 60 degrees from the horizontal; strongly effervescent; secondary carbonates segregated in few fine filaments; strongly alkaline (pH 8.7); abrupt wavy boundary.

R—32 inches; hard fractured basalt; fine-earth soil material fill fractures and some secondary carbonate coats line fractures which are 1/8 to 1/4 inch wide and 3 to 8 inches apart.

Type location: Lassen County, California; about 5 miles east of Mud Flat and 400 feet north of the Smoke

Creek Ranch Road; about 2,580 feet south and 250 feet east of the northwest corner of section 2, T.30 N., R.16 E.; USGS Little Mud Flat 7.5 minute topographic quadrangle; 40 degrees, 29 minutes, 25 seconds north latitude and 120 degrees, 09 minutes, 05 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from June through September; moisture penetration into this soil is controlled by cracks which remain open during June through mid-December for about 200 days; adjacent soils have an aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 53 degrees F.

Ochric epipedon thickness: 1 to 3 inches.

Slickensides and other vertic features: Few to many intersecting slickensides and few to common wedge-shaped peds occur within depths of 6 inches from the soil surface and extend to the bedrock contact; Large cracks, 1 to 7.5 cm wide, open and close each year and extend from the soil surface to the bedrock contact forming large prisms.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Particle-size control section:

Clay content—40 to 60 percent.

Other features—In some pedons the upper 2 or 3 inches of the bedrock is slightly weathered.

A horizon:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Reaction—Neutral to moderately alkaline.

Effervescence—Noneffervescent or slightly effervescent.

Bw horizon:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or silty clay.

Clay content—40 to 60 percent.

Reaction—Neutral to moderately alkaline.

Effervescence—Noneffervescent or slightly effervescent.

Bss horizon:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or silty clay.

Clay content—40 to 60 percent.

Reaction—Slightly alkaline to strongly alkaline.

Effervescence—Noneffervescent or slightly effervescent.

Bssk horizon:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or silty clay.

Clay content—40 to 60 percent.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent or strongly effervescent.

Identifiable secondary carbonates—Occurs as seams, soft masses, or filaments.

Calcium carbonate equivalent—1 to 8 percent.

Bucklake series

The Bucklake series consists of moderately deep, well drained soils that formed in colluvium and residuum derived from basalt or andesite. Bucklake soils are on plateaus and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine, smectitic, mesic Aridic Argixerolls

Typical pedon: Bucklake very stony loam in an area of Susanville Area Parts of Lassen & Plumas Counties, CA, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with 20 percent stones, 15 percent cobbles, and 10 percent pebbles.

A1—0 to 3 inches; brown (7.5YR 5/2) very stony loam, dark brown (7.5YR 3/2) moist; weak medium and thick platy structure; hard, very friable, slightly sticky and slightly plastic; many very fine, many fine, and few coarse roots; many very fine tubular pores; 20 percent stones, 20 percent cobbles, and 15 percent gravel; neutral (pH 7.0); clear wavy boundary.

A2—3 to 8 inches; brown (7.5YR 5/2) very cobbly loam, dark brown (7.5YR 3/2) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, many fine, and few coarse roots; many very fine tubular pores; 10 percent stones, 15 percent cobbles, and 20 percent gravel; neutral (pH 7.0); clear wavy boundary.

Bt1—8 to 12 inches; brown (7.5YR 5/2) gravelly clay loam, dark brown (7.5YR 3/2) moist; moderate medium and coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine tubular pores; common faint and distinct clay films on faces of peds; 25 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

Bt2—12 to 18 inches; brown (7.5YR 5/4) gravelly clay, dark brown (7.5YR 3/4) moist; moderate medium and coarse subangular blocky structure; very hard, friable, very sticky and very plastic; common very fine roots; many very fine tubular pores; many distinct clay films on faces of peds; 25 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

Bt3—18 to 24 inches; brown (7.5YR 5/4) gravelly clay, dark reddish brown (5YR 3/4) moist; weak medium and coarse angular blocky structure; very hard, firm, very sticky and very plastic; common very fine roots; many very fine tubular pores; many distinct clay films on faces of peds; 25 percent gravel; slightly alkaline (pH 7.5); clear wavy boundary.

R—24 inches; hard basalt with some fractures.

Type location: Lassen County, California; about 2.2 miles north-northwest of Smoke Creek Reservoir; about 1,000 feet north and 700 feet east of the approximate center of section 2, T.32 N., R.17 E.; USGS A1 Shinn Canyon 7.5 minute topographic quadrangle; 40 degrees, 40 minutes, 02 seconds north latitude and 120 degrees, 0 minutes, 57 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The moisture control section (10 to 24 inches) is dry from about July to November for between 100 and 130 days. It is moist throughout from December to June. The soil temperature exceeds 41 degrees F from April to December and exceeds 47 degrees F from April to November; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 10 to 20 inches; includes the Bt1 horizon.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Other features: Rock fragments on the soil surface range from 5 to 50 percent, mostly stones and cobbles.

A horizons:

Hue—10YR or 7.5YR.

Chroma—2 or 3.

Texture—Very cobbly loam, very stony loam, or very stony clay loam.

Clay content—20 to 30 percent.

Rock fragments—5 to 55 percent.

Reaction—Slightly acid through slightly alkaline.

Organic matter content—1 to 4 percent.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry.

Chroma—2 through 4.

Texture—Gravelly clay loam or clay loam.

Clay content—27 to 35 percent.

Sand content—20 to 35 percent.

Organic matter content—0.5 to 2 percent.

Bt2 and Bt3 horizons:

Hue—10YR or 7.5YR, dry.

Value—4 or 5 dry, 3 or 4 moist.

Reaction—Neutral or slightly alkaline.

Chroma—2 through 6.

Texture—Gravelly clay, gravelly clay loam, clay, or clay loam.

Clay content—35 to 50 percent.

Sand content—20 to 35 percent.

Rock fragments—5 to 30 percent, mainly gravel.

Reaction—Neutral or slightly alkaline.

Buffaran series

The Buffaran series consists of shallow to a duripan, well drained soils that formed in alluvium derived from mixed sources. Buffaran soils are on fan remnants and ballenas. Slopes are 2 to 15 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Xeric Argidurids

Typical pedon: Buffaran stony loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 50 percent pebbles, 3 percent cobbles, 2 percent stones.

A—0 to 2 inches; light brownish gray (10YR 6/2) stony loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine roots; 25 percent pebbles, 2 percent stones, and 3 percent cobbles; neutral (pH 7.3); clear wavy boundary.

Bt1—2 to 6 inches; brown (10YR 5/3) gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; few very fine and few fine roots; common very fine tubular pores; few faint clay films bridging sand grains; 15 percent pebbles; neutral (pH 7.3); clear wavy boundary.

Bt2—6 to 10 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine tubular pores; common distinct clay films on faces of peds and bridging sand grains; 10 percent pebbles; neutral (pH 7.3) clear wavy boundary.

Bt3—10 to 14 inches; light yellowish brown (10YR 6/4) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; weak coarse prismatic structure parting to moderate very fine and fine angular blocky; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine tubular pores; many prominent clay films on faces of peds; 15 percent pebbles; neutral (pH 7.3); clear wavy boundary.

Btq—14 to 16 inches; light yellowish brown (10YR 6/4) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine and fine roots; common very fine tubular pores; 25 percent 1 to 4 centimeter detached pieces of strongly cemented duripan; slightly alkaline (pH 7.5); abrupt wavy boundary.

Bqkm1—16 to 27 inches; duripan; massive; extremely hard, extremely firm; alternate strong cementation and indurated silica laminae; 60 percent pebbles.

Bqkm2—27 to 60 inches; light gray (10YR 7/2) duripan; many thin strongly cemented laminae with weakly cemented material between the laminae; 30 percent pebbles and 30 percent cobbles; violently effervescent; moderately alkaline (pH 8.2).

Type location: Washoe County, Nevada; about 1 mile southeast of Smoke Creek Ranch; 500 feet south and 500 feet east of the northwest corner of section 5, T.31 N., R.18 E.; USGS Smoke Creek Ranch 7.5 minute topographic quadrangle; 40 degrees, 35 minutes, 02 seconds north latitude and 119 degrees, 58 minutes, 07 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in the moisture control section in winter and spring, dry early June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to base of argillic horizon: 14 to 20 inches.

Depth to duripan: 14 to 20 inches.

Duripan thickness: 40 to 45 inches.

Control section:

Clay content—Averages 35 to 50 percent.

Rock fragments—Averages 5 to 20 percent, mainly pebbles.

A horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist; the upper 7 inches of soil mixed has a dry value of 6.

Chroma—2 or 3, dry or moist.

Reaction—Neutral or slightly alkaline.

Bt horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 through 6, dry or moist.

Texture—Gravelly clay loam, gravelly clay, clay, clay loam, or silty clay loam.

Rock fragments—5 to 25 percent.

Structure—Prismatic, subangular blocky, or angular blocky.

Consistence—Slightly hard or hard dry, very friable or friable moist, slightly plastic or moderately plastic wet.

Reaction—Neutral to moderately alkaline.

Btq horizon:

Texture—Gravelly clay loam or gravelly loam.

Clay content—25 to 40 percent.

Rock fragments—20 to 40 percent strongly cemented detached pieces of the underlying duripan.

Consistence—Slightly hard or hard dry, very friable to firm moist, slightly sticky or moderately sticky and slightly plastic or moderately plastic, wet.

Reaction—Neutral to moderately alkaline

Effervescence—Noneffervescent to strongly effervescent.

Calcium carbonate equivalent—0 to 5 percent.

Bqkm horizons:

Cementation—The Bqkm1 horizon has a strongly cemented or very strongly cemented matrix and very strongly cemented or indurated laminae. The Bqkm2 horizon has a weakly cemented or

moderately cemented matrix and strongly cemented laminae.

Bullump series

The Bullump series consist of deep and very deep, well drained soils that formed in colluvium derived from welded tuff, and rhyolite with a component of loess. Bullump soils are on mountains. Slopes are 5 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls

Typical pedon: Bullump extremely gravelly loam in an area of Lake County, OR, Southern Part, rangeland. (Colors are for dry soils unless otherwise noted).

- A1—0 to 3 inches; dark brown (10YR 3/3) extremely gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, nonsticky and nonplastic; many very fine roots; common very fine discontinuous random vesicular pores; 5 percent stones, 15 percent cobbles, and 45 percent pebbles; (pH 8.0) slightly alkaline; gradual wavy boundary.
- A2—3 to 11 inches; dark brown (10YR 3/3) extremely gravelly loam, very dark grayish brown (10YR 3/2), moist moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots and few fine roots; 5 percent stones, 15 percent cobbles, and 45 percent pebbles; (pH 8.0) slightly alkaline; clear wavy boundary.
- Bt1—11 to 22 inches; brown (10YR 4/3) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; few very fine and fine roots; few very fine tubular pores; 15 percent cobbles and 40 percent pebbles; common faint clay films in pores and on faces of peds; (pH 8.0) slightly alkaline; clear wavy boundary.
- Bt2—22 to 42 inches; yellowish brown (10YR 5/6) very gravelly clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 55 percent pebbles; few faint clay films in pores and on faces of peds; (pH 8.0) slightly alkaline; clear wavy boundary.
- C—42 to 60 inches; yellowish brown (10YR 5/6)

extremely gravelly loam, dark yellowish brown (10YR 4/6) moist; massive; slightly hard, friable, nonsticky and nonplastic; few fine roots; 20 percent cobbles and 45 percent pebbles; (pH 8.0) slightly alkaline.

Type location: Lake County, Oregon, located in the NW1/4, NW1/4, NW1/4 of sec. 35, T.37 S., R.22 E.; 42 degrees, 19 minutes, 23 seconds north latitude and 120 degrees, 06 minutes, 00 seconds west longitude. NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and early summer, dry late July to early October. Additional soil moisture may be supplied by lateral water movement in the lower part of the profile; Xeric moisture regime that borders on aridic.

Mean annual soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 20 to 40 inches, includes the transitional BA horizon when present and may include the Bt1 horizon in some pedons.

Depth to base of argillic horizon: 40 to 60 inches.

Depth to bedrock: 40 to 80 inches to a lithic contact.

Particle-size control section:

Clay content—25 to 35 percent.

Rock fragments—35 to 55 percent, mainly pebbles.

Lithology of fragments are mixed rocks.

Reaction—Slightly acid through slightly alkaline.

Other features—Some very deep pedons have C horizons below 40 inches.

A horizons:

Value—3 through 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Organic matter content—2 to 7 percent.

Bt horizons:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 6, dry or moist.

Texture—Very gravelly loam, very gravelly clay loam, or very gravelly sandy clay loam.

Clay content—25 to 35 percent.

Rock fragments—35 to 55 percent.

Organic matter content—0.5 to 3 percent.

Structure—Fine through coarse subangular blocky or angular blocky.

Consistence—Slightly sticky or moderately sticky and slightly plastic or moderately plastic.

Other features—Uncoated sand grains and few silt coats lining pores occur in some pedons. Some pedons have few distinct relict redox

concentrations of iron or manganese stains on pebbles.

Buntingville series

Buntingville series consists of very deep, somewhat poorly drained soils on fan remnants and terraces. The soils formed in volcanic ash and alluvium derived primarily from tuffs, andesite, basalt, and tuff breccias. Slopes range from 0 to 5 percent. Mean annual precipitation is about 13 inches. The mean annual temperature is about 49 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitrandic Argixerolls

Typical pedon: Buntingville ashy loam in an area of map unit 333, cultivated. (Colors are for dry soil unless otherwise noted.)

Ap—0 to 4 inches; dark gray (10YR 4/1) ashy loam, black (10YR 2/1) moist; weak very fine granular structure; slightly hard, friable, slightly sticky, slightly plastic; many fine roots; many very fine pores; neutral (pH 6.8); clear wavy boundary.

Bt1—4 to 15 inches; dark gray (10YR 4/1) ashy clay loam, very dark gray (10YR 3/1) moist; weak medium prismatic structure; hard, friable, moderately sticky, moderately plastic; many fine roots; few fine and common very fine tubular pores; few thin clay films bridging sand grains and in pores; common fine and medium black (10YR 2/1) moist organic stains; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—15 to 24 inches; gray (10YR 5/1) ashy clay loam, very dark gray (10YR 3/1) moist; moderate medium prismatic structure; hard, friable, moderately sticky, moderately plastic; common fine roots; few medium, and common very fine and fine tubular pores; few thin clay films as bridges and common thin films in pores; few medium faint brown (10YR 4/3) redox concentrations; few medium dark gray (10YR 4/1) organic stains; slightly alkaline (pH 7.6); clear wavy boundary.

Btk—24 to 32 inches; gray (10YR 5/1) ashy clay loam, very dark gray (10YR 3/1) moist; weak coarse subangular blocky structure; hard, friable, moderately sticky, moderately plastic; common fine roots; common fine and many very fine tubular pores; few thin clay films on peds and common thin films in pores; common fine to coarse faint dark grayish brown (10YR 4/2) and dark brown (10YR 3/3) redox concentrations; few medium faint dark gray (10YR 4/1) organic stains; common fine and medium light

gray (10YR 7/1) lime segregations; effervescent in matrix and strongly effervescent in spots; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—32 to 46 inches; brown (10YR 5/3) ashy silty clay loam, dark grayish brown (2.5Y 4/2) moist; massive; hard, friable, moderately sticky, moderately plastic; common fine roots; common fine and very fine tubular pores; common fine and medium light brownish gray (10YR 6/2) lime segregations; matrix is noneffervescent but spots are strongly effervescent; moderately alkaline (pH 8.0); gradual wavy boundary.

C1—46 to 59 inches; pale brown (10YR 6/3) ashy loam, olive brown (2.5Y 4/3) moist; massive; hard, friable, slightly sticky, slightly plastic; few fine roots; common fine and many very fine tubular pores; many medium distinct brown (7.5YR 4/4) redox concentrations; few medium distinct gray (10YR 5/1) and very dark gray (10YR 3/1) organic stains; slightly alkaline (pH 7.8); gradual wavy boundary.

C2—59 to 63 inches; pale brown (10YR 6/3) ashy silty clay loam, grayish brown (2.5Y 5/2) moist; massive; hard, friable, moderately sticky, moderately plastic; few fine roots; common very fine tubular pores; common fine faint brown (10YR 4/3) redox concentrations; common fine distinct very dark gray (N 3/) organic stains; slightly alkaline (pH 7.6).

Type location: Modoc County, California; about 0.6 mile south of the intersection of California Highway 299 and the Surprise Valley road in the center of Cedarville; about 1,950 feet north and 2,475 feet east of the southwest corner of sec. 8, T.42 N., R.16 E; 41 degrees, 31 minutes, 13.7 seconds north latitude and 120 degrees, 10 minutes, 21.1 seconds west longitude, NAD27; Cedarville quadrangle.

Range in Characteristics:

Soil moisture: Moist in the moisture control section during winter and spring, dry in summer and early fall. Xeric soil moisture regime. These soils are normally saturated with water below 36 inches during most years, except where artificially drained.

Soil temperature: 50 to 55 degrees F.

Mollic epipedon thickness: 24 to 40 inches; includes all or most of the Bt horizon.

Thickness of the solum: 24 to 60 inches.

Argillic horizons thickness: 20 to 56 inches.

Carbonates: Noncalcareous through the upper 20 inches, but calcareous and with lime segregations below this depth.

Volcanic glass content: 30 to 60 percent glass and glass aggregates in the coarse silt to sand fractions.

Other features: Redox concentrations and depletions of high chroma or yellowish hue and stains of low chroma are in at least some part of the B horizon and most parts of the C horizon. These range from few to many, fine to coarse, faint to prominent and have hue of 7.5YR through 5Y or N.

Control section:

Texture—Predominantly ashy clay loam; includes ashy sandy clay loam.

Clay content—Average 20 to 35 percent.

A horizons:

Value—3 through 5 dry, 2 or 3 moist.

Chroma—1 or 2; chroma of 2 is permitted only where moist value is 2.

Texture—Ashy loam, or ashy clay loam.

Structure—Weak to strong, very fine to medium, granular or subangular blocky structure. Weak structure is normal in cultivated areas.

Consistence—Soft or slightly hard, dry.

Reaction—Neutral or slightly acid.

Bt horizon:

Hue—10YR or 2.5Y.

Value—3 through 5 dry; 2 or 3 moist.

Chroma—1 or 2.

Structure—Weak or moderate, fine or medium, prismatic or subangular blocky.

Texture—Predominantly ashy clay loam; includes ashy sandy clay loam.

Clay content—Averages 20 to 35 percent, subhorizons in the lower part have up to 40 percent in some pedons.

Reaction—Neutral or slightly acid.

Btk and Bk horizons:

Hue—10YR or 2.5Y.

Value—3 through 5 dry; 2 or 3 moist.

Chroma—2 or 3.

Texture—Ashy clay loam, ashy silty clay loam or ashy sandy clay loam.

Clay content—Averages 20 to 35 percent, subhorizons in the lower part have up to 40 percent in some pedons.

Carbonates—Few or common lime segregations as masses and filaments.

Reaction—Slightly alkaline to strongly alkaline.

C horizon:

Hue—10YR through 5Y.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2 through 4.

Texture—Usually stratified, but in some pedons it is of uniform texture, ranging from ashy fine sandy loam to ashy silty clay loam.

Reaction—Neutral or slightly alkaline.

Burningman series

The Burningman series consists of shallow, well drained soils that formed in volcanic ash and colluvium over residuum derived from basalt and andesite. Burningman soils are on hills and mountains. Slopes are 4 to 15 percent. The mean annual precipitation is about 20 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy over clayey, glassy over smectitic, frigid Lithic Argixerolls

Typical pedon: Burningman extremely cobbly ashy sandy loam in an area of map unit 584, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is partially covered by 20 percent gravel, 25 percent cobbles, and 10 percent stones.

A—0 to 3 inches; dark grayish brown (10YR 4/2) extremely cobbly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; soft, very friable, slightly sticky, slightly plastic; many very fine and fine roots; many very fine and fine interstitial pores; 10 percent pebbles and 60 percent cobbles; slightly acid, (pH 6.3); abrupt smooth boundary.

Bt1—3 to 8 inches; dark grayish brown (10YR 4/2) cobbly ashy loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium angular blocky structure; slightly hard, friable, moderately sticky, slightly plastic; common fine roots; common very fine tubular pores; 25 percent distinct clay bridges between sand grains; 5 percent pebbles and 10 percent cobbles; slightly acid, (pH 6.5); abrupt wavy boundary.

2Bt2—8 to 18 inches; brown (7.5YR 4/2) cobbly clay, dark brown (7.5YR 3/2) moist; strong medium subangular blocky structure; hard, firm, very sticky, very plastic; common fine roots; common very fine tubular pores; 30 percent distinct clay films on all faces of peds and 30 percent distinct clay films on surfaces along pores; 5 percent pebbles and 20 percent cobbles; slightly acid, (pH 6.4); abrupt irregular boundary.

2R—18 inches; unweathered hard basalt.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains, 2,600 feet south and 1,100 feet east of the northwest corner of section 5, T.47 N., R.17 E.; Lake Annie USGS 7.5 minute topographic quadrangle; 41 degrees, 58 minutes, 20 seconds north latitude and 120 degrees, 3 minutes, 00 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches to hard bedrock. The lithic materials below the contact are basalt or andesite.

Particle-size control section:

Clay content—18 to 27 in the upper part, (field estimates); 35 to 50 percent in the lower part.

Rock fragments—15 to 35 percent, cobbles or gravels, lithology of the fragments is basalt, andesite or andesitic tuff.

Reaction—Slightly acid or neutral.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 2 percent.

Oxalate A1 + 1/2 oxalate Fe—0.2 to 0.4 percent.

Volcanic glass content—50 to 80 percent in the coarse silt through fine sand fractions.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam, or ashy sandy clay loam.

Clay averages—18 to 27 percent.

Rock fragments—15 to 35 percent.

Structure—Angular blocky or subangular blocky.

Organic matter content—1 to 2 percent.

Oxalate A1 + 1/2 oxalate Fe—0.2 to 0.4 percent.

Volcanic glass content—50 to 80 percent in the coarse silt through fine sand fractions.

2Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Clay or clay loam.

Clay averages—35 to 50 percent.

Rock fragments—15 to 35 percent.

Structure—Angular blocky, subangular blocky, or prismatic.

Organic matter content—1 to 2 percent.

Cavin series

The Cavin series consists of very deep, well drained soils that formed in volcanic ash and colluvium derived from volcanic and pyroclastic rocks. Cavin soils are on mountains. Slopes are 8 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid Vitritorrandic Haploxerolls

Typical pedon: Cavin very gravelly ashy sandy loam in an area of map unit 335, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 45 percent pebbles and 5 percent cobbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) very gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure parting to moderate very fine granular; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine tubular and interstitial pores; 40 percent pebbles; moderately acid (pH 6.0); abrupt wavy boundary.

A2—2 to 7 inches; grayish brown (10YR 5/2) very gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; many very fine and few fine tubular pores; 40 percent pebbles; slightly acid (pH 6.4); clear wavy boundary.

A3—7 to 11 inches; grayish brown (10YR 5/2) very gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, common fine and medium roots; many very fine and few fine tubular pores; 35 percent pebbles; neutral (pH 6.6); clear wavy boundary.

Bq—11 to 18 inches; pale brown (10YR 6/3) very gravelly ashy sandy loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; hard, friable, slightly sticky and nonplastic; common very fine and fine and few medium roots; many very

fine tubular pores; 40 percent pebbles and 10 percent cobbles; 20 percent very weakly cemented brittle masses; neutral (pH 6.6); abrupt wavy boundary.

C1—18 to 24 inches; pale brown (10YR 6/3) very gravelly ashy sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; common very fine, fine and medium roots; many very fine interstitial and tubular pores; 40 percent pebbles and 15 percent cobbles; neutral (pH 6.6); gradual wavy boundary.

2C2—24 to 60 inches; light gray (10YR 7/2) extremely cobbly ashy very fine sandy loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; no roots observed; common very fine and fine tubular pores; 35 percent pebbles, 30 percent cobbles, and 2 percent stones; neutral (pH 7.2)

Type location: Washoe County, Nevada; on the south flank of Fox Mountain; about 1,400 feet east and 2,250 feet south of the northwest corner of section 7, T.36 N., R.22 E.; USGS Fox Mountain 7.5 minute quadrangle; 41 degrees, 00 minutes, 57.2 seconds north latitude and 119 degrees, 33 minutes, 7.9 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from July through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 10 to 16 inches.

Mineralogy: 60 to 95 percent volcanic glass in the very fine and fine sand size throughout.

Depth to 2C horizon: 20 to 30 inches.

Particle-size control section:

Clay content—8 to 15 percent.

Rock fragments—Average 40 to 60 percent volcanic pebbles and cobbles. Lithology of fragments is volcanic rocks such as andesite.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Reaction—Moderately acid or slightly acid in the A1 and A2 horizons.

Bq horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry.

Chroma—2 or 3.

Rock fragments—40 to 60 percent pebbles and cobbles.

Cementation—20 to 30 percent very weakly cemented brittle masses.

C1 horizon:

Value—6 or 7 dry, 3 or 4 moist.

Chroma—3 or 4.

Rock fragments—40 to 60 percent pebbles and cobbles.

2C2 horizon:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

Texture—Extremely gravelly ashy sandy loam, extremely cobbly ashy sandy loam, or ashy very fine sandy loam.

Rock fragments—60 to 80 percent pebbles and cobbles.

Ceejay series

The Ceejay series consists of shallow, well drained soils that formed in residuum and colluvium derived from volcanic rocks. Ceejay soils are on plateaus and hills. Slopes are 4 to 30 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 49 degrees F.

Taxonomic class: Clayey, smectitic, mesic Lithic Xeric Haplargids

Typical pedon: Ceejay gravelly loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 2 percent stones, 5 percent cobbles, and 40 percent pebbles.

A—0 to 2 inches; light gray (10YR 7/2) gravelly loam, dark grayish brown (10YR 4/2) moist; moderate thick platy structure parting to strong thin platy; slightly hard, friable, moderately sticky and slightly plastic; few very fine roots; many fine vesicular and few very fine interstitial pores; 20 percent pebbles and 2 percent stones; moderately alkaline (pH 8.2); abrupt smooth boundary.

Bt1—2 to 6 inches; yellowish brown (10YR 5/4) clay loam, brown (10YR 4/3) moist; weak medium prismatic structure parting to moderate thin platy; slightly hard, very friable, very sticky and moderately plastic; common very fine and fine and few medium roots; common very fine tubular pores; many distinct

clay films on faces of peds; 10 percent cobbles; moderately alkaline (pH 8.2); clear wavy boundary.
 Bt2—6 to 11 inches; yellowish brown (10YR 5/4) cobbly clay loam, brown (10YR 4/3) moist; moderate medium prismatic structure parting to moderate fine angular blocky; hard, friable, very sticky and moderately plastic; few very fine to medium roots; common very fine tubular pores; many distinct clay films on faces of peds; 10 percent pebbles and 10 percent cobbles; moderately alkaline (pH 8.3); clear wavy boundary.

Btk—11 to 16 inches; brown (7.5YR 4/4) cobbly clay, dark yellowish brown (10YR 4/4) moist; moderate medium prismatic structure parting to moderate fine angular blocky; hard, friable, very sticky and very plastic; few very fine to medium roots; common very fine tubular pores; common distinct clay films on faces of peds; secondary carbonates segregated as very few masses on rock fragments; 10 percent pebbles and 10 percent cobbles; moderately alkaline (pH 8.3); abrupt wavy boundary.

R—16 inches; hard basalt; fractured in some places; thin (less than 2 mm) carbonate and silica coats in rock fractures.

Type location: Washoe County, Nevada; between the Smoke Creek Desert and the Buffalo Hills; in a unsectionized township about 300 feet south and 100 feet east of the projected northwest corner of section 24, T.32 N., R.20 E.; USGS Horse Canyon 7.5 minute topographic quadrangle; 40 degrees, 38 minutes, 36 seconds north latitude and 119 degrees, 41 minutes, 18 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in summer and fall; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 54 to 59 degrees F.

Ochric epipedon thickness: 2 to 6 inches.

Depth to bedrock: 14 to 20 inches to a lithic contact.

Reaction: Neutral through moderately alkaline.

Particle-size control section:

Clay content—35 to 45 percent.

Rock fragments—Averages 15 to 30 percent, mainly pebbles and cobbles. Lithology of fragments is volcanic rocks such as basalt or andesite.

A horizon:

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Bt horizons and Btk horizon:

Hue—7.5YR or 10YR.

Value—4 or 5, dry or moist.

Chroma—3 or 4, dry or moist.

Texture—Gravelly clay loam, gravelly clay, cobbly clay loam, clay loam, or cobbly clay.

Clay content—35 to 45 percent.

Rock fragments—10 to 30 percent.

Structure—Prismatic parting to platy or angular blocky.

Consistence—Slightly hard or extremely hard, moderately sticky or very sticky and moderately plastic or very plastic.

Other features—Some pedons lack carbonate coats in the lower part of the argillic horizon or on the bedrock contact.

Calcium carbonate equivalent—0 to 1 percent.

Chalco series

The Chalco series consists of shallow, well drained soils that formed in colluvium over residuum derived from lake-laid tuff. Chalco soils are on rock pediments and hills. Slopes are 4 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Xeric Haplargids

Typical pedon: Chalco gravelly fine sandy loam in an area of Susanville Area Parts of Lassen & Plumas Counties, CA, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is covered with about 35 percent pebbles.

A—0 to 4 inches; pale brown (10YR 6/3), gravelly fine sandy loam, dark brown (10YR 3/3) moist; moderate, thick and very thick platy structure; slightly hard, very friable, sticky and plastic; few very fine roots; many very fine and fine vesicular and interstitial pores; 20 percent gravel; neutral (pH 7.3); abrupt wavy boundary.

Bt1—4 to 10 inches; yellowish brown (10YR 5/4) clay; dark yellowish brown (10YR 3/4) moist; moderate, fine and medium prismatic structure parting to strong, medium and coarse angular blocky; very hard, friable, very sticky and very plastic; many very fine, common fine, medium, and coarse roots; common very fine interstitial and tubular pores; many thin and moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—10 to 15 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; moderately medium and coarse angular blocky structure, very hard, friable, very sticky and very plastic; common very fine, few fine and medium roots; common very fine interstitial and few very fine tubular pores; 12 percent tuff gravel; many thin and moderately thick clay films on faces of pedis and in pores; slightly effervescent with disseminated lime, slightly alkaline (pH 7.8) abrupt wavy boundary.
 Cr—15 to 20 inches; soft weathered tuff, violently effervescent with disseminated lime.

Type location: About 25 feet west of trail, and about 3,000 feet east and 1,500 feet south of the northwest corner of Sec. 1 (projected), T.28 N., R.17 E.; 40 degrees, 19 minutes, 11 seconds north latitude and 120 degrees, 00 minutes, 28 seconds longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and early spring, dry in summer and fall; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 50 to 57 degrees F.

Ochric epipedon thickness: 1 to 5 inches.

Depth to bedrock: 10 to 20 inches to a paralithic contact. The paralithic materials below the contact are weathered volcanic rocks such as tuff or andesite.

Particle-size control section:

Clay content—35 to 60 percent.

Rock or pararock fragments—0 to 15 percent, mainly gravel. Lithology of fragments are volcanic rocks such as tuff or andesite.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Structure—Platy, granular, or subangular blocky.

Reaction—Slightly acid through slightly alkaline.

Bt horizons:

Value—4 through 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Clay, silty clay, or paragravelly clay.

Clay content—40 to 60 percent.

Rock fragments—0 to 15 percent.

Pararock fragments—0 to 15 percent.

Structure—Commonly prismatic but angular blocky in some pedons.

Reaction—Slightly acid through moderately alkaline.

Other features—Less than 15 percent sand coarser than very fine sand.

Chime series

The Chime series are moderately deep, well drained soils that formed in residuum from tuffaceous rocks. Chime soils are on side slopes of plateaus. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids

Typical pedon: Chime gravelly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; common fine and very fine vesicular pores; 20 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

A2—3 to 7 inches; light gray (10YR 7/2) gravelly loam, brown (10YR 4/3) moist; moderate medium platy structure; hard, very friable, slightly sticky and slightly plastic; few medium, fine, and very fine roots; few fine and very fine vesicular pores; 20 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt—7 to 16 inches; pale brown (10YR 6/3) clay loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse subangular blocky structure; hard, firm, sticky and plastic; few fine and very fine roots; common very fine tubular pores; common moderately thick clay films on faces of pedis and lining pores; 10 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

Bq—16 to 25 inches; very pale brown (10YR 8/3) gravelly loam, dark yellowish brown (10YR 4/4) moist; weak fine and medium subangular blocky structure; hard, firm, sticky and plastic; few fine and very fine roots; few fine tubular pores; 60 percent discontinuous silica cementation; 20 percent pebbles; continuous brittle matrix; slightly alkaline (pH 7.8); abrupt wavy boundary.

Cr—25 to 29 inches; weathered tuffaceous sandstone.

Type location: Washoe County, Nevada; about 2,300 feet east and 1,700 feet south of the northwest corner of section 28 T.42 N., R.18 E.; 41 degrees, 32

minutes, 04 seconds north latitude and 119 degrees, 58 minutes, 39 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry mid-June through October.

Soil temperature: 47 to 52 degrees F.

Depth to paralithic contact: 20 to 30 inches.

Depth to Bq horizon: 14 to 20 inches.

Control section:

Clay content—27 to 35 percent.

Rock fragments—Up to 20 percent, mainly pebbles.

A horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 3 or 4 moist.

Chroma—2 or 3.

Bt horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry.

Chroma—3 or 4.

Structure—Moderate or strong, fine to coarse angular or subangular blocky.

Total thickness—9 to 12 inches.

Bq horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—3 or 4.

Texture—Loam, gravelly loam, clay loam, gravelly clay loam.

Rock fragments—5 to 20 percent, mainly pebbles.

Cementation—Continuous brittle matrix and some pedons contain 20 to 60 percent discontinuous silica cementation.

Coppersmith series

The Coppersmith series consists of very deep, well drained soils formed in eolian material, alluvium derived from volcanic rocks, and volcanic ash. Coppersmith soils are on beach terraces. Slopes are 2 to 8 percent. The mean annual precipitation is about 11 inches, and the mean annual temperature is about 48 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Argixerolls

Typical pedon: Coppersmith ashy sandy loam in an area of map unit 344, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; grayish brown (10YR 5/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate thin and medium platy structure parting to strong fine subangular blocky; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine and fine and few medium interstitial pores; noneffervescent; 5 percent igneous gravel and 1 percent cobbles; neutral (pH 6.8); abrupt smooth boundary.

A2—2 to 5 inches; grayish brown (10YR 5/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; weak very coarse prismatic structure parting to moderate thick platy; soft, very friable, slightly sticky and slightly plastic; many very fine and few fine and medium roots; many very fine interstitial pores and few very fine and fine tubular pores; noneffervescent; neutral (pH 6.8); abrupt smooth boundary.

Bt1—5 to 11 inches; brown (10YR 5/3) ashy sandy clay loam, dark brown (10YR 3/3) moist; moderate medium and coarse subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; many very fine to medium roots and and coarse roots in mat at top of horizon; many very fine and fine tubular pores; common distinct dark brown (10YR 3/3) clay films between sand grains and few distinct clay films on faces of peds and in pores; noneffervescent; neutral (pH 7.2); clear wavy boundary.

Bt2—11 to 16 inches; pale brown (10YR 6/3) ashy sandy clay loam, dark yellowish brown (10YR 3/4) moist, brown (10YR 4/3), moist; moderate medium subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; many very fine and fine and few medium roots; many very fine and fine tubular pores; many distinct brown (10YR 4/3) clay films on faces of peds and in pores; noneffervescent; slightly alkaline (pH 7.4); clear wavy boundary.

Bq1—16 to 24 inches; pale brown (10YR 6/3) ashy fine sandy loam, dark yellowish brown (10YR 3/4) moist, dark yellowish brown (10YR 4/4), rubbed, moist; massive; very hard, firm, brittle, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 50 percent 10 to 50 millimeter hard very firm durinodes; few faint clay films between sand grains; noneffervescent; 5 percent tuff gravel; slightly alkaline (pH 7.4); clear wavy boundary.

Bq2—24 to 30 inches; light yellowish brown (10YR 6/4) ashy fine sandy loam, dark yellowish brown (10YR 4/4) moist; massive; hard, firm, brittle, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 25 percent 10 to 50 millimeter, hard, firm durinodes; noneffervescent; 5

percent tuff gravel; slightly alkaline (pH 7.6); clear smooth boundary.

Bq3—30 to 39 inches; pale yellow (2.5Y 7/3) ashy fine sandy loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, friable, nonsticky and nonplastic; few very fine to medium roots; many very fine interstitial pores and few very fine tubular pores; 25 percent 10 to 25 millimeter durinodes; noneffervescent; 3 percent tuff gravel; moderately alkaline (pH 8.0); clear smooth boundary.

2Bqk—39 to 60 inches; pale yellow (2.5Y 7/3) ashy loamy sand, olive brown (2.5Y 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine to medium roots; many very fine interstitial pores and few very fine tubular pores; 10 percent 5 to 25 millimeter durinodes; violently effervescent; moderately alkaline (pH 8.4).

Type location: Lassen County, California; at the south end of Surprise Valley; about 1 mile south of Nevada Hwy. 447 and about 0.75 mile west of the California-Nevada state line; about 700 feet east and 2,400 feet south of the northwest corner of section 23, T.38 N., R.17 E; 41 degrees, 8 minutes, 37.2 seconds north latitude and 120 degrees, 01 minute, 03.8 seconds west longitude. NAD27. USGS Snake Lake 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring; dry June through October. Soil moisture regime is aridic bordering xeric.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 8 to 16 inches, includes the upper part of the Bt horizon.

Depth to base of the Bt horizons: 12 to 24 inches.

Control section:

Clay content—20 to 27 percent.

Mineralogy—40 to 60 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

A horizon:

Value—2 or 3 moist.

Chroma—2 or 3.

Bt horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Structure—Weak through strong, fine through coarse subangular blocky or angular blocky.

Reaction—Neutral or slightly alkaline.

Rock fragments—Up to 5 percent pebbles.

Bq horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 3 through 6 moist.

Chroma—3 or 4.

Rock fragments—0 to 30 percent gravel and 0 to 15 percent paragravel. Lithology of the gravel is mostly andesite and basalt.

Consistence—Subhorizons more than 6 inches thick have hard or very hard, firm and brittle consistence.

Reaction—Slightly alkaline or moderately alkaline.

Other features—20 to 70 percent durinodes. Some pedons have few very thin (< 2 mm thick) discontinuous and unoriented silica laminae. The durinodes are hard or very hard, firm or very firm, and include some durinodes that are extremely hard and extremely firm.

2Bqk horizon:

Value—6 or 7 dry.

Chroma—3 or 4.

Rock fragments—0 to 30 percent gravel, 0 to 15 percent paragravel. Lithology of the gravel is mostly andesite and basalt.

Effervescence—Strongly effervescent or violently effervescent. None to few fine or medium soft masses of lime.

Cormol series

The Cormol series consists of shallow, well drained soils that formed in volcanic ash and residuum derived from volcanic rocks. Cormol soils are on plateaus. Slopes are 15 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy, glassy, mesic, shallow Vitritorrandic Argixerolls

Typical pedon: Cormol very cobbly ashy loam in an area of map unit 386, rangeland (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; light brownish gray (10YR 6/2) very cobbly ashy loam, very dark grayish brown (10YR 3/2) moist; strong thick platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine roots; many very fine and common fine vesicular pores; 10 percent hard volcanic pebbles, 20 percent cobbles and 10 percent stones; neutral (pH 6.8); clear wavy boundary.

A2—3 to 7 inches; brown (10YR 5/3) ashy loam, dark brown (10YR 3/3) moist; strong thin platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and common fine roots; many very vesicular pores; 10 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt1—7 to 11 inches; grayish brown (10YR 5/2) ashy sandy clay loam, very dark grayish brown (10YR 3/2) moist; strong fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and fine roots; many very fine tubular pores; common faint and distinct clay films on faces of peds and lining pores; 10 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt2—11 to 18 inches; yellowish brown (10YR 5/4) very paragravelly ashy sandy clay loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and fine roots; many very fine tubular pores; many faint and common distinct clay films on faces of peds and lining pores; 40 percent soft pebbles; slightly alkaline (pH 7.4); clear irregular boundary.

Cr—18 to 34 inches; soft, weathered andesitic tuff; few roots in some fractures; slightly alkaline (pH 7.8).

Type location: Lassen County, California; near Upper Tuledad Canyon; 950 feet west and 200 feet south of the northeast corner, section 31, T.37 N., R.17 E.; 41 degrees, 02 minutes, 09.7 seconds north latitude and 120 degrees, 04 minutes, 48.1 seconds west longitude; USGS Little Hat Mountain 7.5 minute topographic quadrangle; NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 51 degrees F.

Mollic epipedon thickness: 8 to 12 inches, includes the Bt1 horizon.

Depth to soft bedrock: 14 to 20 inches. The paralithic materials below the contact are vitric tuffs.

Volcanic glass content: 35 to 60 percent in the coarse silt through fine sand fractions.

Control section:

Clay content—20 to 30 percent.

Rock fragments—15 to 30 percent paragravel and 0 to 15 percent gravel, weighted average. Lithology of fragments is volcanic rocks, including soft tuff.

A horizon:

Value—2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Dominantly ashy sandy clay loam, but includes ashy clay loam and ashy loam.

Rock fragments—5 to 15 percent pebbles.

Reaction—Neutral or slightly alkaline.

Bt2 horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Fine earth fraction is dominantly ashy sandy clay loam, but includes ashy clay loam and ashy loam.

Rock fragments—30 to 45 percent paragravel, 0 to 15 percent pebbles.

Reaction—Neutral or slightly alkaline.

Corral series

The Corral series consists of shallow, well drained soils that formed in pedisement or in residuum derived from tuffaceous rocks. Corral soils are on plateaus. Slopes are 15 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy, mixed, superactive, mesic, shallow Xeric Haplargids

Typical pedon: Corral sandy loam in an area of Susanville Area, Parts of Lassen & Plumas Counties, CA, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; grayish brown (10YR 5/2) sandy loam, very dark grayish brown (10YR 3/2) moist; strong very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 10 percent gravel; neutral (pH 6.8); clear wavy boundary.

A2—2 to 4 inches; light brownish gray (10YR 6/2) sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial and common very fine tubular pores; neutral (pH 7.0); clear wavy boundary.

Bt—4 to 12 inches; light yellowish brown (10YR 6/4) sandy clay loam, brown (10YR 4/3) moist; moderate

very fine prismatic structure parting to moderate very fine and fine angular blocky; hard, friable, moderately sticky and moderately plastic; common very fine, common fine, and common medium roots; common very fine tubular pores; many faint and distinct clay films on faces of peds and lining pores; slightly alkaline (pH 7.4); abrupt wavy boundary.

Crt—12 inches; strongly fractured soft tuffaceous sandstone with horizontal and vertical fractures 2 to 10 inches apart; common fine and medium roots are along cracks and fractures; common faint and distinct clay films lining fractures.

Type location: Lassen County, California; in the north part of Secret Valley found by going about 1.5 miles south of the Karlo Road intersection with U.S. Hwy. 395, 0.6 mile east of Hwy. 395 on a dirt road, 500 feet south of this dirt road, and 150 feet south of the fence; approximately 2,100 feet south and 700 feet west of the northeast corner of section 11, T.31 N., R.15 E.; USGS Five Springs 7.5 minute topographic quadrangle; 40 degrees, 33 minutes, 53 seconds north latitude and 120 degrees, 14 minutes, 22 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soils are moist in all parts from early December to May 1, dry in all parts from early June through mid-November. The soil temperature exceeds 41 degrees F. from early April to early December and exceeds 47 degrees F. from early May to mid-November; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 53 degrees F.

Ochric epipedon thickness: 3 to 7 inches.

Depth to bedrock: 12 to 20 inches to a paralithic contact.

The paralithic materials below the contact are soft, weathered tuffaceous sandstone, tuff, or diatomite.

Particle-size control section:

Clay content—Averages 18 to 27 percent.

Sand content—30 to 50 percent.

Silt content—15 to 30 percent.

Rock fragments—Averages less than 15 percent, mainly gravel. Lithology of fragments are volcanic rocks such as tuff, rhyolite, or basalt.

Other features—Some pedons have either illuvial clay or secondary carbonates segregated in the upper part of the paralithic material along fractures.

A horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Texture—Sandy loam, fine sandy loam, loam, very cobbly loam, or extremely stony loam; overblown phases have loamy fine sand texture for the soil surface.

Clay content—5 to 25 percent.

Rock fragments—0 to 50 percent cobbles and gravel, 0 to 55 percent stones.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—3 or 4 moist.

Texture—Loam, sandy clay loam, or clay loam.

Clay content—20 to 35 percent.

Rock fragments—0 to 15 percent, mainly gravel.

Structure—Prismatic parting to angular blocky or subangular blocky.

Reaction—Neutral or slightly alkaline.

Cotant series

The Cotant series consists of shallow, well drained soils that formed in residuum and colluvium derived from tuffaceous rocks. Cotant soils are on hills. Slopes are 8 to 30 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Clayey, smectitic, frigid, shallow Aridic Argixerolls

Typical pedon: Cotant very gravelly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 40 percent pebbles and 5 percent cobbles.

A—0 to 2 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common fine roots; many very fine interstitial and vesicular pores; 40 percent pebbles and 5 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bt1—2 to 9 inches; dark grayish brown (10YR 4/2) clay, very dark brown (10YR 2/2) moist; strong very fine subangular blocky structure; hard, friable, very sticky and very plastic; common medium and fine roots; common fine and very fine tubular pores; many moderately thick clay films on faces of peds and lining pores; 10 percent pebbles; common thin pale

brown (10YR 6/3) uncoated sand grains on horizontal faces of peds, dark brown (10YR 3/3) moist; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bt2—9 to 14 inches; dark grayish brown (10YR 4/2) clay, very dark grayish brown (10YR 3/2) moist; strong fine and medium prismatic structure parting to strong medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common fine and medium roots concentrated along vertical faces of peds; common medium and fine tubular pores; 10 percent pebbles; many moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.8); clear wavy boundary.

Bt3—14 to 19 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist and brown (10YR 5/3) expd, brown (10YR 4/3) moist; strong medium prismatic structure parting to strong medium and coarse angular blocky; hard, friable, very sticky and very plastic; common fine and medium roots; common very fine tubular pores; 10 percent pebbles; 10 percent brown (10YR 4/3) clay films, very dark grayish brown (10YR 3/2) moist on faces of peds and in pores; slightly alkaline (pH 7.8); clear smooth boundary.

Cr—19 to 23 inches; weathered tuff, few medium and fine roots along weak fracture planes; common moderately thick clay films in upper 2 inches; 5 percent hard pebbles in matrix; moderately alkaline (pH 8.0).

Type location: Washoe County, Nevada; about 600 feet west and 900 feet north of the southeast corner of section 13, T.43 N., R.18 E.; 41 degrees, 38 minutes, 35 seconds north latitude, and 119 degrees, 54 minutes, 31 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist; moist in winter and spring, dry July through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 7 to 15 inches, including the Bt1 horizon or both the Bt1 and Bt2 horizons.

Depth to base of argillic horizon: 12 to 20 inches.

Depth to bedrock: 12 to 20 inches to a paralithic contact. The paralithic materials below the contact are weathered rhyolite or tuff.

Control section:

Clay content—40 to 60 percent.

Rock fragments—0 to 15 percent, mainly pebbles.

Lithology of fragments are volcanic rocks such as tuff and rhyolite.

Reaction—Neutral or slightly alkaline.

A horizon:

Value—5 or 6 dry, value dry is 5 after mixing the upper 7 inches of the soil.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 3 percent.

Bt1 horizon:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Organic matter content—1 or 2 percent.

Structure—Prismatic, angular blocky, or subangular blocky.

Consistence—Very friable to firm, moist; moderately sticky or very sticky and moderately plastic or very plastic, wet.

Bt2 horizon:

Value—4 through 6 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Organic matter content—0 to 2 percent.

Structure—Prismatic, angular blocky, or subangular blocky.

Consistence—Very friable to firm, moist; moderately sticky or very sticky and moderately plastic or very plastic, wet.

Other features—Some pedons have thin subhorizons with up to 25 percent rock fragments.

Couch series

The Couch series consists of very deep, well drained soils that formed in volcanic ash and alluvium derived from volcanic rock. These soils are on basin floor remnants. Slopes are 0 to 4 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Fine, smectitic, mesic Vitrixerandic Natrargids

Typical pedon: Couch ashy fine sandy loam in an area of map unit 347, rangeland. (Colors are for dry soil unless otherwise noted).

A—0 to 1 inch; gray (10YR 6/1) ashy fine sandy loam, dark gray (10YR 4/1) moist; weak medium platy structure; soft, very friable, nonsticky, nonplastic; few very fine and fine roots; many very fine and fine vesicular pores; strongly alkaline (pH 8.8); abrupt wavy boundary.

Btn—1 to 6 inches; brown (10YR 5/3) clay, brown (10YR 4/3) moist; strong medium columnar structure with very thin (less than 5 millimeters thick) light gray (10YR 7/2) coatings on caps; hard, firm, very sticky, very plastic; many very fine roots; many very fine and fine tubular pores; many thin; clay films on faces of peds and in pores; strongly alkaline (pH 9.0); clear wavy boundary.

Btnk—6 to 13 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; weak medium and coarse subangular blocky structure; slightly hard, friable, very sticky, very plastic; few very fine and fine roots; many very fine tubular pores; many thin clay films in pores and few thin on faces of peds; many medium and fine very pale brown (10YR 8/2) lime segregations; matrix is noneffervescent, but lime segregations are violently effervescent; very strongly alkaline (pH 9.4); gradual wavy boundary.

Btnky—13 to 22 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; weak medium and fine subangular blocky parting to moderate very fine granular structure; soft, very friable, moderately sticky, moderately plastic; few very fine tubular pores; many very fine and fine very pale brown (10YR 7/3) and very pale brown (10YR 8/2) gypsum crystals and lime segregations; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

2C1—22 to 39 inches; light gray (10YR 7/2) stratified ashy fine sandy loam, dark grayish brown (10YR 4/2) moist; many dark gray (10YR 4/1) and very dark gray (10YR 3/1) sand grains; massive; soft, very friable, nonsticky, nonplastic; few fine and very fine roots; many very fine and fine tubular pores; violently effervescent; very strongly alkaline (pH 9.3).

2C2—39 to 60 inches; very pale brown (10YR 7/3) stratified ashy very fine sandy loam, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky, nonplastic; few very fine and fine roots; many very fine and fine tubular pores; violently effervescent; very strongly alkaline (pH 9.3).

Type location: Modoc County, California; about 30 feet east of jeep trail, and about 1,400 feet north and 2,100 feet west of the southeast corner of sec. 4, T.43 N., R.16 E.; Mount Diablo base line and meridian; 41 degrees, 37 minutes, 14.9 seconds north latitude and 120 degrees, 08 minutes, 58.2 seconds west longitude, NAD27; Cedarville quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, moist more than 1/4 of the time the soil temperature is more than 41 degrees F.

Mean annual soil temperature: 49 to 52 degrees F.

Solum thickness: 15 to 24 inches.

Salinity: Ranges from 0 to 16 throughout.

A horizon:

Value—6 or 7 dry, 3 or 4 moist.

Chroma—1 or 2.

Structure—Weak or moderate, thin to thick platy structure or is massive.

Consistence—Soft or slightly hard, dry.

Carbonates—Noncalcareous.

Reaction—Moderately alkaline or strongly alkaline.

Btn, Btnk, and Btnky horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3.

Texture—Clay loam or clay.

Clay content—35 to 60 percent.

Structure—Moderate and strong, fine and medium columnar in the upper part; subangular blocky or granular in the lower part.

Carbonates—Matrix material is noneffervescent or slightly effervescent; few to many, fine or medium lime segregations occur in the lower part of some pedons.

Reaction—Strongly alkaline or very strongly alkaline; moderately alkaline in the lower part of some pedons where gypsum is present.

Sodicity—SAR ranges from 13 to 30.

Other features—Column caps contain many bleached sand and silt grains and have value of 7 or 8 dry, 4 or 5 moist, and chroma of 1 or 2. The caps range in thickness up to 1/8 inch but do not tongue downward between the column sides.

C horizon:

Hue—10YR through 5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3.

Texture—Ashy sandy loam, ashy fine sandy loam, ashy very fine sandy loam or ashy silt loam; layers are commonly weakly stratified.

Clay content—15 to 25 percent.

Rock fragments—0 to 25 percent gravel.

Carbonates—Strongly effervescent or violently effervescent.

Reaction—Moderately alkaline to very strongly alkaline.

Volcanic ash and glass—30 to 60 percent of the coarse silt and sand fraction is glass and glass aggregates.

Cowbell series

The Cowbell series consists of very deep, well drained soils that formed in colluvium from basalt, andesite and tuff and volcanic ash. Cowbell soils are on mountains and plateaus. Slopes are 4 to 30 percent. The mean annual precipitation is about 16 inches and the mean annual air temperature is about 40 degrees F.

Taxonomic class: Ashy-skeletal, glassy Vitrandic Argicryolls

Typical pedon: Cowbell extremely cobbly ashy mucky sandy loam in an area of map unit 322, mahogany savanna. (Colors are for dry soil unless otherwise noted). About 40 percent of the soil surface is covered by a thin layer of leaves and twigs.

A1—0 to 3 inches; very dark grayish brown (10YR 3/2) extremely cobbly ashy mucky sandy loam, black (10YR 2/1) moist; moderate medium subangular blocky structure that parts to moderate medium granular; soft, very friable, nonsticky and nonplastic; many very fine and fine and common medium and coarse roots; many very fine interstitial pores; 15 percent stones, 30 percent cobbles, and 20 percent gravel; moderately acid (pH 6.0); clear smooth boundary.

A2—3 to 9 inches; dark grayish brown (10YR 4/2) extremely cobbly ashy loam, very dark brown (10YR 2/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and fine and common medium and coarse roots; many very fine and fine tubular pores; 10 percent stones, 30 percent cobbles, and 25 percent gravel; slightly acid (pH 6.2); clear wavy boundary.

Bt1—9 to 20 inches; dark grayish brown (10YR 4/2) extremely cobbly ashy loam, very dark brown (10YR 2/2) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine to coarse roots; many very fine and few fine tubular pores; common distinct clay films on faces of peds and in pores; 5 percent stones, 35 percent cobbles, and 30 percent gravel; neutral (pH 6.6); abrupt irregular boundary.

Bt2—20 to 40 inches; brown (7.5YR 5/4) very cobbly ashy sandy clay loam, dark brown (7.5YR 3/4) moist; moderate medium subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine, and common medium and coarse roots; many very fine and few fine tubular pores; many distinct clay films on faces of peds and in pores; 25 percent cobbles and 30 percent gravel; neutral (pH 6.8); clear wavy boundary.

Bt3—40 to 60 inches; pale brown (10YR 6/3) very gravelly ashy sandy clay loam, dark grayish brown (10YR 4/2) moist; weak coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine to medium roots; common very fine and few fine tubular pores; common distinct clay films on faces of peds and in pores; 5 percent cobbles and 35 percent gravel; neutral (pH 6.8).

Type location: Lassen County, California; in Cottonwood Mountains; about 3 miles southeast of Dodge Reservoir; about 1,900 feet west and 400 feet north of the southeast corner of sec. 20, T.36 N. R.17 E.; USGS Buckhorn Lake 7.5 minute topographic quadrangle; 40 degrees, 57 minutes, 58 seconds north latitude and 120 degrees, 03 minutes, 39 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring, dry in late summer and fall; completely dry for at least 45 consecutive days between July and October; xeric moisture regime that borders on aridic.

Mean annual soil temperature: 41 to 44 degrees F.

Mean summer soil temperature: 54 to 59 degrees F.

Mollic epipedon thickness: 16 to 30 inches.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Control section:

Clay content—18 to 25 percent.

Rock fragments—50 to 70 percent, dominantly cobbles and gravel.

A horizon:

Value—3 or 4 dry, 2 or 3 moist.

Chroma—1 through 4, dry or moist.

Reaction—Slightly acid or neutral.

Bt horizon:

Value—4 through 6 dry.

Chroma—2 through 4, dry or moist.

Structure—Angular blocky or subangular blocky.
Consistence—Slightly hard or hard dry.

Crazybird series

The Crazybird series consists of shallow, well drained soils that formed in volcanic ash and colluvium over residuum derived from andesite or tuff. Crazybird soils are on mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 22 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid, shallow Vitrandic Argixerolls

Typical pedon: Crazybird very gravelly ashy sandy loam in an area of map unit 352, rangeland. (Colors are for dry soil unless otherwise noted).

A—0 to 3 inches; brown (10YR 5/3) very gravelly ashy sandy loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky, nonplastic; common very fine roots; many very fine and fine interstitial pores; 50 percent pebbles; neutral, (pH 6.6); clear wavy boundary.

Bt1—3 to 7 inches; brown (10YR 5/3) very gravelly ashy sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; common fine roots and many very fine roots; common very fine and fine interstitial pores; 10 percent faint clay bridges between sand grains; 5 percent paragravel, 5 percent cobbles and 45 percent pebbles; neutral, (pH 6.6); clear wavy boundary.

Bt2—7 to 10 inches; dark grayish brown (10YR 4/2) very gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky, moderately plastic; common very fine and fine roots and few medium roots; common very fine interstitial and tubular pores; 25 percent distinct clay films on all faces of pedis and 25 percent distinct clay films on surfaces along pores; 5 percent cobbles, 10 percent paragravel and 45 percent pebbles; neutral, (pH 6.8); clear wavy boundary.

Bt3—10 to 15 inches; dark grayish brown (10YR 4/2) extremely gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky, slightly plastic; common very fine and fine roots and few medium roots; common very fine interstitial and tubular pores; 25

percent distinct clay films on all faces of pedis and 25 percent distinct clay films on surfaces along pores; 20 percent cobbles, 20 percent paragravel and 45 percent gravel; neutral, (pH 6.8); clear wavy boundary.

Cr—15 to 21 inches, weathered and fractured andesitic tuff.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 1,500 feet north and 2,100 feet west of the southeast corner of section 25, T.46 N., R.15 E.; Mt. Bidwell USGS 7.5 minute topographic quadrangle; 41 degrees, 49 minutes, 29.8 seconds north latitude and 120 degrees, 11 minutes, 51.1 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 43 to 47 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches to a paralithic contact.

The paralithic materials below the contact are weathered pyroclastic andesitic tuff.

Particle-size control section:

Clay content—Averages 18 to 27 percent, (field estimates).

Rock fragments—Average 35 to 60 percent, mainly gravel or cobbles, subhorizons may contain more than 60 percent. Lithology of the fragments is primarily andesitic tuff.

Profile reaction—Slightly acid or neutral.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 4 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Texture—Ashy loam or ashy sandy loam.

Clay content—18 to 27 percent.

Rock fragments—35 to 60 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—1 to 2 percent.

Crocac series

The Crocacan series consists of shallow, well drained soils that formed in residuum derived from basalt, andesite, and tuff. Crocacan soils are on plateaus. Slopes are 2 to 15 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey, smectitic, frigid Lithic Argixerolls

Typical pedon: Crocacan very stony loam in an area of Washoe County, NV, North Part, forestland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent stones and boulders, 15 percent cobbles and 20 percent pebbles.

A1—0 to 1 inch; very dark brown (10YR 2/2) very stony loam, black (10YR 2/1) moist; moderate very fine granular structure; soft, very friable, slightly sticky and nonplastic; many very fine roots; many very fine interstitial pores; 10 percent stones, 15 percent cobbles, and 20 percent pebbles; neutral (pH 6.8); clear wavy boundary.

A2—1 to 3 inches; very dark grayish brown (10YR 3/2) very cobbly loam, very dark brown (10YR 2/2) moist; moderate very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 10 percent stones, 15 percent cobbles, and 20 percent pebbles; neutral (pH 6.8); clear wavy boundary.

Bt—3 to 5 inches; very dark grayish brown (10YR 3/2) clay loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, many fine, and common medium roots; common fine tubular pores; common distinct clay films on faces of peds and lining pores; 10 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Btss1—5 to 10 inches; brown (7.5YR 4/2) clay, dark brown (7.5YR 3/2) moist; strong fine and medium angular blocky structure; very hard, very friable, very sticky and very plastic; common very fine, few fine, few medium, and few coarse roots; common very fine tubular pores; common distinct and prominent clay films on faces of peds and lining pores; vertical cracks 2 to 5 millimeters wide and 4 to 6 inches apart; common slickensides; 10 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

Btss2—10 to 14 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; strong medium prismatic structure

parting to strong medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common very fine and common fine roots; common very fine tubular pores; many dark brown (10YR 3/3) distinct and prominent clay films on faces of peds and lining pores; vertical cracks 2 to 5 millimeters wide and 4 to 6 inches apart; common slickensides; 10 percent pebbles; neutral (pH 7.0); abrupt irregular boundary. R—14 to 18 inches; hard massive vesicular basalt; few fractures.

Type location: Washoe County, Nevada; about 5 miles southeast of Barrel Springs and south of the Barrel Springs road along power line; 1,700 feet west and 2,000 feet north of the southeast corner of section 31, T.46 N., R.19 E.; USGS Crooks Meadow 7.5 minute topographic quadrangle; 41 degrees, 51 minutes, 47 seconds north latitude and 119 degrees, 53 minutes, 33 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; usually dry from July through October. Dry more than half the time that the soil temperature is above 41 degrees F.; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 7 to 14 inches, includes all or parts of the argillic horizon.

Depth to bedrock: 10 to 14 inches to a lithic contact.

Control section:

Clay content—Averages 35 to 45 percent.

Rock fragments—Averages 10 to 35 percent, mainly cobbles. Lithology of fragments is mainly basalt.

A horizons:

Value—2 or 3 dry, 2 or 3 moist.

Chroma—1 or 2, dry or moist.

Clay content—12 to 18 percent.

Organic matter content—5 to 10 percent in the A1 horizon, 3 to 5 percent in the A2 horizon.

Bt horizon:

Hue—7.5YR or 10YR.

Value—3 or 4 dry, 2 or 3 moist.

Clay content—33 to 40 percent.

Rock fragments—5 to 15 percent, mainly pebbles.

Organic matter content—1 to 3 percent.

Btss horizons:

Hue—7.5YR or 10YR.

Value—3 through 5 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Clay content—55 to 65 percent.

Rock fragments—5 to 10 percent, mainly pebbles.
 Organic matter content—1 or 2 percent.
 Slickensides—Occurs as few or common, small polished surfaces at bases of prisms or blocks.
 Other features—Few or common vertical cracks 5 to 10 millimeters wide.

Crutcher series

The Crutcher series consists of very deep, somewhat poorly drained soils that formed in volcanic ash and alluvium over lacustrine deposits. Crutcher soils are on alluvial flats. Slopes are 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Ashy, glassy, mesic Sodic Xeric Haplocambids

Typical pedon: Crutcher ashy very fine sandy loam in an area of map unit 354, rangeland. (Colors are for dry soil unless otherwise noted.)

- A1—0 to 2 inches; light brownish gray (2.5Y 6/2) ashy very fine sandy loam, dark grayish brown (2.5Y 4/2) moist; strong thick platy structure; hard, very friable, slightly sticky and slightly plastic; many fine roots; many very fine and fine vesicular pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt wavy boundary.
- A2—2 to 5 inches; pale yellow (2.5Y 8/2) ashy very fine sandy loam, light olive brown (2.5Y 5/3) moist; strong medium and thick platy structure; hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots; many very fine vesicular pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt wavy boundary.
- Bw—5 to 15 inches; pale yellow (2.5Y 8/2) ashy loam, light olive brown (2.5Y 5/3) moist; moderate fine and medium platy structure parting to strong very fine subangular blocky; hard, very friable, moderately sticky and moderately plastic; many very fine roots and many fine and medium and few coarse; many very fine interstitial and tubular pores; violently effervescent; very strongly alkaline (pH 9.6); clear smooth boundary.
- Bq—15 to 22 inches; pale yellow (2.5Y 8/2) ashy silt loam, light olive brown (2.5Y 5/3) moist; strong fine and medium platy structure; hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots and many medium and coarse; many very fine tubular pores; common fine distinct very dark grayish brown (10YR 3/2) moist masses of iron accumulation; 10 percent 15 to 25 millimeter hard durinodes; violently effervescent; very strongly alkaline (pH 9.6); clear smooth boundary.
- Ck1—22 to 32 inches; pale yellow (2.5Y 8/2) stratified ashy sandy loam and ashy silty clay loam, light olive brown (2.5Y 5/3) moist; weak medium and thick platy structure; hard, friable, moderately sticky and moderately plastic; few very fine and fine roots; many tubular pores and few very fine pores; many fine and medium distinct very dark gray (10YR 3/1) moist zones of iron depletion; secondary carbonates segregated as many fine and medium masses; violently effervescent; very strongly alkaline (pH 9.2); clear wavy boundary.
- Ck2—32 to 43 inches; pale yellow (2.5Y 8/2) stratified ashy loam and ashy silty clay loam, olive brown (2.5Y 4/3) moist; weak medium and thick platy structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; many fine and medium distinct very dark grayish brown (10YR 3/2) moist zones of iron depletion; 5 percent sedimentary paragravel; compacted lacustrine sediments; secondary carbonates segregated as common fine and medium masses; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.
- 2Ck3—43 to 58 inches; pale yellow (2.5Y 8/2) paragravelly ashy silt loam, olive gray (5Y 4/2) moist; weak medium and thick platy structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; 15 percent sedimentary paragravel; compacted lacustrine sediments; common fine prominent dark greenish gray (5G 4/1) and common fine and medium distinct very dark gray (10YR 3/1) moist zones of iron depletion; secondary carbonates segregated as common fine and medium masses; strongly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.
- 3Ck4—58 to 74 inches; pale yellow (5Y 8/2) paragravelly ashy silty clay loam, olive (5Y 4/3) moist; massive; very hard, firm, moderately sticky and moderately plastic; few very fine roots; few very fine tubular pores; 25 percent sedimentary paragravel; compacted lacustrine sediments; many fine distinct very dark gray (10YR 3/1) moist zones of iron depletion and common fine distinct dark yellowish brown (10YR 4/4) moist masses of iron accumulation; secondary carbonates segregated as few fine masses; slightly effervescent; strongly alkaline (pH 8.6).

Type location: Washoe County, Nevada; on the northeast side of Duck Flat; about 300 feet southwest

of state highway 447; about 1,550 feet south and 2,000 feet west of the northeast corner of section 19, T.37 N., R.19 E.; USGS Duck Lake 7.5 minute topographic quadrangle; 41 degrees, 04 minutes, 43 seconds north latitude and 119 degrees, 53 minutes, 29 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry June through October; saturated 40 to 60 inches late winter through summer; arid moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 50 degrees F.

Depth to base of cambic horizon: 10 to 25 inches.

Particle-size control section:

Clay content—18 to 27 percent.

Volcanic glass content—40 to 60 percent in the 0.02 to 2.0 millimeter fraction.

A horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 or 3.

Structure—Weak to strong thin through thick platy.

Consistence—Hard or slightly hard.

Reaction—Strongly alkaline or very strongly alkaline.

Effervescence—Strongly or violently effervescent.

Calcium carbonate equivalent—1 to 5 percent

Sodicity (SAR)—30 to 50.

Bw horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 or 3.

Structure—Weak or moderate very fine to coarse subangular blocky or platy parting to subangular blocky.

Effervescence—Strongly or violently effervescent.

Reaction—Strongly alkaline or very strongly alkaline.

Texture—Ashy silt loam or ashy loam.

Calcium carbonate equivalent—1 to 5 percent.

Sodicity (SAR)—30 to 50.

Bq horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 3 or 4 moist.

Chroma—2 through 4.

Consistence—Slightly hard or hard, very friable or friable.

Reaction—Strongly alkaline or very strongly alkaline.

Durinodes—Up to 15 percent durinodes, in a very friable or friable matrix.

Sodicity (SAR)—15 to 50.

Ck horizon:

Hue—5Y or 2.5Y.

Value—7 or 8 dry, 4 through 6 moist.

Chroma—2 through 4.

Structure—Platy or it is massive.

Reaction—Strongly alkaline or very strongly alkaline.

Effervescence—Strongly effervescent or violently effervescent.

Carbonates—Few to many very fine to medium masses or filaments.

Calcium carbonate equivalent—5 to 12 percent

Sodicity (SAR)—5 to 30.

2Ck horizon:

Hue—5Y or 2.5Y.

Value—7 or 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Effervescence—Slightly effervescent to strongly effervescent.

Carbonates—Few to many very fine to medium masses or filaments.

Calcium carbonate equivalent—2 to 10 percent
Sodicity (SAR)—5 to 13.

Cuminvar series

The Cuminvar series consists of very deep, poorly and very poorly drained soils that formed in lacustrine sediments derived from mixed volcanic rocks with additions of volcanic ash. Cuminvar soils are on lake terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy over clayey, glassy over smectitic, nonacid, frigid Typic Endoaquepts

Typical pedon: Cuminvar muck in an area of map unit 356, pasture land. (Colors are for dry soil unless otherwise noted.)

Oa—0 to 8 inches; gray (10YR 5/1) muck, black (10YR 2/1) moist; massive; soft, friable, nonsticky and nonplastic; many very fine and fine roots; many very fine and fine interstitial pores; neutral (pH 6.8); clear wavy boundary.

C—8 to 15 inches; white (10YR 8/1) ashy silt loam, gray (10YR 6/1) moist; massive; slightly hard, brittle, slightly sticky and very plastic; common very fine and fine roots; common very fine and fine tubular pores; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Css1—15 to 19 inches; gray (10YR 6/1) clay, very dark gray (10YR 3/1) moist; strong medium and fine

columnar structure; extremely hard, very firm, very sticky and very plastic; common very fine tubular pores; common slickensides; moderately alkaline (pH 8.2); clear wavy boundary. (2 to 6 inches thick)

2C_{ss2}—19 to 25 inches; gray (10YR 6/1) clay, dark grayish brown (10YR 4/2) moist; moderate medium prismatic parting to strong coarse angular blocky structure; extremely hard, very firm, sticky and very plastic; few very fine inped and common very fine exped roots; few very fine tubular pores; common slickensides; moderately alkaline (pH 8.2) gradual wavy boundary.

2C_{ss3}—25 to 38 inches; light brownish gray (2.5Y 6/2) clay, dark grayish brown (2.5Y 4/2) moist; moderate coarse angular blocky parting to medium and fine angular blocky structure; extremely hard, firm, sticky and very plastic; common very fine and fine roots; common fine tubular pores; common slickensides; moderately alkaline (pH 8.2) gradual irregular boundary.

2C_{gk1}—38 to 52 inches; 60 percent pale olive (5Y 6/3) and 40 percent light brownish gray (2.5Y 6/2) silty clay, 60 percent light olive brown (2.5Y 5/3) and 40 percent olive (5Y 5/6) moist; massive; hard, firm, sticky and very plastic; common very fine and fine roots; common very fine tubular pores; many fine and medium pale yellow (2.5Y 8/2) soft masses of lime; slightly effervescent matrix; strongly alkaline (pH 8.6) gradual wavy boundary.

2C_{gk2}—52 to 72 inches; 60 percent olive (5Y 5/3) and 40 percent pale olive (5Y 6/4) silty clay, 60 percent light olive gray (5Y 6/2) and 40 percent greenish gray (5GY 6/1) moist; massive; hard, slightly firm, slightly brittle, sticky and very plastic; common very fine and firm roots; few very fine tubular pores; many medium greenish gray (5BG 5/1) redox depletions in matrix; slightly effervescent matrix; strongly alkaline (pH 8.8).

Type location: Modoc County, California; in Surprise Valley about 1 mile east of Snake Lake; about 1,150 feet south and 1,700 feet east of the northwest corner of section 33; T.39 N., R.17 E.; Snake Lake USGS 7.5 minute topographic quadrangle; 41 degrees, 12 minutes, 23 seconds north latitude and 120 degrees, 03 minutes, 04 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually saturated in some part of the moisture control section during winter, spring and early summer, usually dry in some part summer and fall; Aquic moisture regime.

Mean annual soil temperature: 43 to 47 degrees F.

Histic epipedon thickness: 8 to 16 inches.

Depth to clayey discontinuity: 15 to 25 inches.

Control section:

Clay content—Averages 18 to 27 percent in the upper part and 40 to 60 percent in the lower part.

Rock fragments—Averages less than 5 percent.

O_a horizon:

Hue—10YR, 2.5Y or neutral.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 or less dry or moist.

Organic matter content—25 to 35 percent.

Reaction—Slightly acid or neutral.

C horizon:

Hue—10YR, 2.5Y or neutral.

Value—7 or 8 dry, 5 or 6 moist.

Chroma—1 or less, dry or moist.

Texture—Ashy silt loam.

Clay content—18 to 27 percent.

Rock fragments—Less than 5 percent.

2C_{ss} horizons:

Hue—10YR, 2.5Y or 5Y.

Value—5 to 7 dry, 4 or 5 moist.

Chroma—1 or 2 dry or moist.

Texture—Clay or silty clay.

Clay content—40 to 60 percent.

Rock fragments—Less than 5 percent.

Reaction—Slightly alkaline to very strongly alkaline.

2C_{gk} horizons:

Hue—2.5Y or 5Y.

Value—5 or 6 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or silty clay.

Clay content—40 to 60 percent.

Rock fragments—Less than 5 percent.

Reaction—Slightly alkaline to very strongly alkaline.

Effervescence—Slightly effervescent to strongly effervescent in the matrix.

Carbonates—Common or many fine and medium soft lime masses in some subhorizon.

Redoximorphic features—Redox depletions occur as masses of iron or manganese depletions in the matrix.

Cummings series

The Cummings series consists of very deep, poorly drained soils that formed in volcanic ash and lacustrine deposits derived from volcanic rock. Cummings soils are on floodplains and lake terraces. Slopes are 0 to 2 percent. Mean annual precipitation is about 14 inches and mean annual air temperature is about 43 degrees F.

Taxonomic class: Ashy, glassy, calcareous, frigid
Aquandic Endoaquolls

Typical pedon: Cummings mucky ashy silty clay loam in an area of map unit 359, cultivated. (Colors are for dry soil unless otherwise noted).

Ap—0 to 6 inches; very dark gray (10YR 3/1) mucky ashy silty clay loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; many 2 to 5 millimeter white (N 8/) freshwater snail and clam shells; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

A2—6 to 10 inches; very dark gray (10YR 3/1) ashy silty clay loam, black (10YR 2/1) moist; strong fine and medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine roots; many very fine and common fine tubular pores; many 2 to 5 millimeter white (N 8/) freshwater snail and clam shells; strongly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

A3—10 to 18 inches; dark gray (10YR 4/1) ashy silty clay loam, black (10YR 2/1) moist; strong medium prismatic structure parting to strong fine and medium subangular blocky; hard, very friable, moderately sticky and moderately plastic; many very fine roots; many very fine and fine tubular pores; many 2 to 5 millimeter white (N 8/) freshwater snail shells; common fine distinct very dark gray (N 3/) organic stains; strongly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

ABk—18 to 28 inches; gray (10YR 5/1) ashy silty clay loam, very dark gray (10YR 3/1) moist; strong medium prismatic structure parting to fine and medium subangular blocky; hard, very friable, moderately sticky and moderately plastic; many very fine roots; common very fine and few fine tubular pores; common 2 to 5 millimeter distinct black (N 2.5Y) organic stains and common prominent white (N 8/) lime segregations and 2 to 5 millimeter freshwater snail shells; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

ABky—28 to 34 inches; dark gray (10YR 4/1) ashy silty clay loam, black (10YR 2/1) moist; strong medium and coarse subangular blocky structure; hard, firm, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; common (2 percent) fine and medium distinct white (N 8/) soft masses of lime and few (0.5 percent) fine distinct white (N 8/) soft masses of gypsum; few 2 to 5 millimeter freshwater snail shells, few fine and

medium faint brown (10YR 4/3) redox iron concentrations, and few fine distinct very dark gray (10YR 3/1) organic stains; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.
ABk—34 to 44 inches; black (10YR 2/1) and dark gray (10YR 4/1) ashy silty clay loam, black (N 2.5/) moist; moderate medium and coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine tubular pores; many very fine roots; 2 percent 2 to 5 millimeter prominent white (N 8/) soft masses of lime; few 2 to 5 millimeter distinct very dark gray (10YR 3/1) organic stains; slightly effervescent; moderately alkaline (pH 8.0); clear wavy boundary.
C—44 to 63 inches; 80 percent brownish yellow (10YR 6/8) and 10 percent pale brown (10YR 6/3) ashy silty clay loam, dark yellowish brown (10YR 4/6) moist and brown (10YR 4/3) moist; massive; hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; noneffervescent; 25 percent 1 to 2 millimeter dark gray (10YR 4/1) redox depletions, black (N 2.5/) moist; moderately alkaline (pH 8.0).

Type location: Modoc County, California; north of Surprise Valley and near the south end of Cow Head Lake; approximately 1,200 feet east and 150 feet south of the projected northwest corner of section 33, T.47 N., R.17 E.; USGS Lake Annie 7.5 minute topographic quadrangle; 41 degrees, 54 minutes, 25.9 seconds north latitude and 120 degrees, 01 minute, 45.3 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist or wet in winter and spring, ponded for long or very long duration in spring and early summer, dry mid-to-late summer and fall.

Aquic conditions: Saturated within a depth of 12 inches in spring and early summer.

Mean annual soil temperature: 43 to 47 degrees F.

Mean summer soil temperature: 60 to 63 degrees F.

Oxalate A1 + 1/2 oxalate iron: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 24 to 48 inches.

Particle-size control section:

Clay content—Averages 27 to 35 percent (field estimated).

Reaction—Moderately alkaline to strongly alkaline.

A horizons:

Hue—10YR, 2.5Y or N.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—0 or 1, dry or moist.

Effervescence—Strongly effervescent or violently effervescent.

AB horizons:

Hue—10YR, 2.5Y or N.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—0 or 1, dry or moist.

Texture—Ashy silty clay loam; strata of ashy silt loam, silty clay or clay are in some pedons.

Gypsum—Subhorizons with few soft masses of gypsum are in some pedons.

Carbonates—Few or common soft masses or filaments of lime.

Calcium carbonate equivalent—Up to 5 percent in any subhorizon.

Effervescence—Slightly effervescent or strongly effervescent.

C horizon:

Hue—10YR, 2.5Y or N.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—1 through 8.

Structure—Weak subangular blocky or is massive.

Effervescence—Noneffervescent through strongly effervescent.

Dangvar series

The Dangvar series consists of shallow, somewhat poorly drained soils that formed in lacustrine sediments derived from mixed volcanic rock sources with additions of volcanic ash. Dangvar soils are on lake terraces. Slopes are 0 to 5 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Aquic Natrargidic Natridurids

Typical pedon: Dangvar ashy loam in an area of map unit 360, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; light brownish gray (10YR 6/2) ashy loam, dark grayish brown (10YR 4/2) moist; moderate medium platy structure; slightly hard, friable, nonsticky and nonplastic; common very fine and fine roots; many very fine tubular and interstitial pores; strongly effervescent; very strongly alkaline (pH 9.2) abrupt smooth boundary

A2—2 to 4 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; massive;

slightly hard, friable, slightly sticky and slightly plastic; common very fine roots; few very fine tubular pores and many very fine interstitial pores; strongly effervescent; very strongly alkaline (pH 9.3) abrupt wavy boundary

Btn—4 to 9 inches; light brownish gray (10YR 6/2) silty clay, dark grayish brown (10YR 4/2) moist; moderate fine and medium columnar structure; very hard, firm, very sticky and very plastic; common very fine exped and few very fine inped roots; common very fine tubular pores; common faint clay films lining pores and many pressure cutans; strongly effervescent; very strongly alkaline (pH 9.4) clear wavy boundary

Btkn—9 to 17 inches; light brownish gray (10YR 6/2) silty clay, dark grayish brown (10YR 4/2) moist; strong medium prismatic structure; very hard, firm, very sticky and very plastic; common very fine exped and few very fine inped roots; many very fine tubular pores; many faint clay films lining pores and many pressure cutans; many fine to coarse white (10YR 8/1) soft lime masses in lower part; strongly effervescent; very strongly alkaline (pH 9.2) abrupt smooth boundary.

Bkqm—17 to 20 inches; variegated light gray (10YR 7/2) and light brownish gray (10YR 6/2) strongly cemented duripan, dark grayish brown (10YR 4/2) and light brownish gray (10YR 6/2) moist; moderate medium and thick platy structure; extremely hard and extremely firm in upper part and very hard and very firm in lower part; common very fine roots matted on upper surface; common very fine tubular pores and many very fine interstitial pores; many thin silica films lining pores and bridging sand grains; common very thin discontinuous silica laminar cap on upper surface; many very pale brown (10YR 8/2) lime coatings on faces of peds; violently effervescent; very strongly alkaline (pH 9.1) clear wavy boundary.

Bkq1—20 to 35 inches; light brownish gray (10YR 6/2) loam, dark grayish brown (10YR 4/2) moist; massive; very hard, firm, slightly sticky and slightly plastic; few very fine roots; many very fine and few fine tubular pores; many very thin silica coats lining pores and bridging sand grains, very thin discontinuous silica laminae and 40 percent fine to coarse moderately cemented silica durinodes; common fine to coarse white (10YR 8/1) soft lime filaments; few fine faint brown (10YR 5/3) redox concentrations; violently effervescent; very strongly alkaline (pH 9.2) gradual wavy boundary.

Bkq2—35 to 60 inches; variegated light gray (10YR 7/2) and light brownish gray (10YR 6/2) silty clay loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, sticky and plastic; few very fine roots; common very fine and fine tubular pores; 25

percent medium and coarse weakly cemented silica durinodes; common fine and medium very pale brown (10YR 8/2) soft lime filaments; few very fine distinct very dark grayish brown (10YR 3/2) and very dark brown (10YR 2/2) iron manganese redox concentrations; violently effervescent; strongly alkaline (pH 9.0).

Type location: Modoc County, California; in Surprise Valley, east of the Warner Mountains, about 5 miles northeast of Cedarville; about 200 feet south and 300 feet west of the northeast corner of section 17, T.43 N., R.16 E.; Cedarville USGS 7.5 minute topographic quadrangle; 41 degrees, 36 minutes, 08 seconds north latitude and 120 degrees, 09 minutes, 44 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and spring, dry from summer to mid-fall; typical aridic moisture regime.

Mean annual soil temperature: 47 to 50 degrees F.

Depth to duripan: 14 to 20 inches.

Control section:

Clay content—Averages 40 to 60 percent.

Rock fragments—Averages less than 5 percent

A horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 3 or 4 moist.

Chroma—1 or 2 dry or moist.

Structure—Weak or moderate, thin to thick platy, or is massive.

Volcanic glass content—30 to 50 percent glass and glass aggregates in the coarse silt to sand fraction.

Salinity (EC)—4 to 32 mmhos/cm.

Sodicity (SAR)—13 to 90.

Reaction—Strongly alkaline or very strongly alkaline.

Btn horizon:

Hue—10YR or 2.5Y.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3 dry or moist.

Texture—Clay or silty clay.

Structure—Moderate or strong fine to coarse columnar structure.

Clay content—40 to 60 percent.

Rock fragments—Less than 5 percent.

Salinity (EC)—8 to 32 mmhos/cm.

Sodicity (SAR)—31 to 90.

Reaction—Strongly or very strongly alkaline.

Btkn horizon:

Hue—10YR or 2.5Y.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Texture—Clay or silty clay.

Structure—Moderate or strong fine to coarse columnar structure.

Clay content—40 to 60 percent.

Rock fragments—Less than 5 percent

Salinity (EC)—8 to 32 mmhos/cm.

Sodicity (SAR)—31 to 90.

Carbonates—Common or many fine to coarse soft lime masses.

Calcium carbonate equivalent—5 to 10 percent.

Effervescence—Strongly effervescent or very strongly effervescent in the matrix.

Reaction—Strongly or very strongly alkaline.

Bqkm horizon:

Structure—Commonly is platy, but is massive in some pedons or in subhorizons of some pedons.

Bkq1 horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3 dry or moist.

Texture—Loam.

Clay content—20 to 27 percent.

Rock fragments—Less than 5 percent.

Salinity (EC)—4 to 32 mmhos/cm.

Sodicity (SAR)—13 to 90.

Redoximorphic features—Redox concentrations occur as masses of iron and manganese accumulation.

Durinodes—20 to 50 percent weak to moderately cemented durinodes or silica laminae.

Carbonates—Common or many fine to coarse soft lime masses.

Calcium carbonate equivalent—5 to 10 percent.

Effervescence—Strongly effervescent or very strongly effervescent in the matrix.

Reaction—Strongly or very strongly alkaline.

Bkq2 horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Texture—Silty clay loam.

Clay content—27 to 35 percent.

Rock fragments—Less than 5 percent.

Salinity (EC)—4 to 32 mmhos/cm.

Sodicity (SAR)—13 to 90.

Redoximorphic features—Redox concentrations occur as masses of iron and manganese accumulation.

Durinodes—20 to 50 percent weak to moderately cemented durinodes or silica laminae.

Carbonates—Common or many fine to coarse soft lime masses.

Calcium carbonate equivalent—5 to 10 percent.

Effervescence—Strongly effervescent or very strongly effervescent in the matrix.

Reaction—Strongly or very strongly alkaline.

Davey series

The Davey series consists of very deep, somewhat excessively drained soils that formed in alluvium derived from mixed rocks. Davey soils are on sand sheets and lake plains. Slopes are 2 to 4 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 49 degrees F.

Taxonomic class: Sandy, mixed, mesic Xeric Haplocambids

Typical pedon: Davey loamy fine sand in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 6 inches; light brownish gray (10YR 6/2) loamy fine sand, very dark grayish brown (10YR 3/2) moist; weak very thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; neutral (pH 7.3); clear wavy boundary.

Bw—6 to 16 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; neutral (pH 7.3); clear wavy boundary.

C—16 to 30 inches; pale brown (10YR 6/3) loamy fine sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; moderately alkaline (pH 7.9); clear wavy boundary.

Ck1—30 to 41 inches; pale brown (10YR 6/3) loamy fine sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; slightly effervescent; lime is disseminated; slightly effervescent; lime is disseminated; moderately alkaline (pH 7.9); clear wavy boundary.

Ck2—41 to 60 inches; pale brown (10YR 6/3) fine sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; slightly effervescent; lime is disseminated; moderately alkaline (pH 8.0).

Type location: Washoe County, Nevada; about 3 miles north of Road 8A and 3.5 miles northwest of Painted Point in an unsectioned area. 41 degrees, 37 minutes, 39 seconds north latitude and 119 degrees, 44 minutes, 57 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry May through October; dry about 150 to 180 consecutive days when soil temperature is above 41 degrees F.; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 53 degrees F.

Depth to base of cambic horizon: 11 to 23 inches.

Depth to carbonates: 0 to 30 inches.

Particle-size control section:

Clay content—Averages 5 to 10 percent

Rock fragments—Averages less than 15 percent, mainly gravel. Lithology of fragments are mixed rocks.

Other features—Some pedons have gypsum crystals below a depth of 20 inches; Some pedons in Nevada have weakly cemented or strong cemented duripans below a depth of 50 inches; Some pedons in Oregon lack carbonates within a depth of 60 inches.

A horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 3 through 6 moist; dry value is 6 or 7 when the upper 7 inches of the soil is mixed.

Chroma—1 through 3, dry or moist.

Reaction—Neutral or slightly alkaline.

Bw horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sandy loam or sandy loam, some pedons have subhorizons that are gravelly sandy loam.

Structure—Prismatic, subangular blocky, or it is massive.

Reaction—Neutral through moderately alkaline.

C or Ck horizons:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 3 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Fine sand, loamy fine sand, or loamy sand; but thin strata of fine sandy loam or coarse sand are in some pedons; Some pedons have strata

with texture of very fine sandy loam or silt loam below a depth of 40 inches.

Reaction—Slightly alkaline through strongly alkaline.

Effervescence—Slightly effervescent to violently effervescent in the Ck horizon.

Identifiable secondary carbonates—Occurs as few or common filaments, patchy coats on rock fragments, or disseminated in the matrix.

Calcium carbonate equivalent—0 to 10 percent.

Cementation—Up to 10 percent weakly cemented durinodes are below a depth of 20 inches in some pedons.

Redoximorphic features—Redox concentrations occur in some pedons as relict masses of iron accumulation below depths of 40 inches.

Dawgbuffer series

The Dawgbuffer series consists of very shallow and shallow, well drained soils that formed in volcanic ash and colluvium over residuum derived from andesite or tuff. Dawgbuffer soils are on mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 26 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid, shallow Vitrandic Argixerolls

Typical pedon: Dawgbuffer very gravelly ashy sandy loam in an area of map unit 363, rangeland. (Colors are for dry soil unless otherwise noted).

A1—0 to 1 inch; dark grayish brown (10YR 4/2) very gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; weak fine granular structure; soft, very friable, nonsticky, nonplastic; common very fine roots; many very fine interstitial pores; 40 percent pebbles; slightly acid, (pH 6.3); clear smooth boundary.

A2—1 to 4 inches; dark grayish brown (10YR 4/2) very gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine and fine roots; common very fine tubular and many very fine interstitial pores; 40 percent pebbles; slightly acid, (pH 6.5); clear wavy boundary.

Bt1—4 to 8 inches; brown (7.5YR 4/2) extremely gravelly ashy sandy loam, dark brown (7.5YR 3/2) moist; 18 percent clay; moderate fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; many very fine and fine roots; many very fine interstitial and common very fine tubular pores; 20 percent faint clay bridges between sand grains; 60

percent pebbles; slightly acid, (pH 6.5); clear wavy boundary.

Bt2—8 to 13 inches; brown (7.5YR 4/2) extremely gravelly ashy sandy clay loam, very dark brown (7.5YR 2.5/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; many very fine and fine roots; many very fine interstitial and common very fine tubular pores; 30 percent faint clay bridges between sand grains; 70 percent pebbles; slightly acid, (pH 6.5); clear irregular boundary.

Cr—13 to 15 inches, weathered, fractured andesite.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 250 feet south and 950 feet west of the northeast corner of section 22, T.39 N., R.16 E.; Emerson Peak USGS 7.5 minute topographic quadrangle; 41 degrees, 14 minutes, 23.0 seconds north latitude and 120 degrees, 08 minutes, 18 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 41 to 47 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 7 to 14 inches.

Depth to bedrock: 7 to 14 inches to soft bedrock. The weathered materials below the contact are andesitic tuff.

Particle-size control section:

Clay content—Averages 15 to 25 percent, (field estimates).

Rock fragments—Average 35 to 60 percent, mainly gravel and cobbles.

Profile reaction—Slightly acid or neutral.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—2 to 4 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam, ashy sandy loam, or ashy sandy clay loam.

Clay content—18 to 30 percent.
 Rock fragments—60 to 80 percent.
 Structure—Weak to strong, fine to coarse subangular blocky.
 Organic matter content—1 to 2 percent.

Devada series

The Devada series consists of shallow, well drained soils that formed in residuum weathered from volcanic. Devada soils are on plateaus and mountains. Slopes are 0 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Clayey, smectitic, mesic Lithic Argixerolls

Typical pedon: Devada very cobbly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 30 percent cobbles and 20 percent pebbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; 30 percent cobbles and 20 percent pebbles; neutral (pH 7.0); clear wavy boundary.

A2—2 to 6 inches; brown (10YR 5/3) very cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and common fine roots; many very fine interstitial pores; 30 percent pebbles, 20 percent cobbles; neutral (pH 7.0); abrupt smooth boundary.

Bt1—6 to 11 inches; brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; strong fine and medium subangular blocky structure; hard, very friable, very sticky and plastic; few fine roots; very few fine tubular pores; common moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

Bt2—11 to 17 inches; yellowish brown (10YR 5/4) gravelly clay, brown (10YR 4/3) moist; strong medium and coarse angular blocky structure; hard, friable, very sticky and very plastic; few fine roots; few fine tubular pores; many moderately thick clay films on faces of peds and in pores; 15 percent pebbles; neutral (pH 7.3); abrupt irregular boundary.

R—17 to 21 inches; hard basalt; few fractures in upper 1 inch; few fine and medium roots in fractures; common thin silica coats on underside of fractured pieces; dark yellowish brown (10YR 4/4) clay, very dark brown (10YR 2/2) moist; weathered in place in some fractures.

Type location: Washoe County, Nevada; about 1 mile northwest of Vya; about 1,800 feet west and 2,000 feet north of the southeast corner of section 32, T.43 N., R.19 E.; 41 degrees, 36 minutes, 11 seconds north latitude and 119 degrees, 52 minutes, 29 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in summer through late fall; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 53 degrees F.

Mollic epipedon thickness: 7 to 20 inches; includes all or part of the argillic horizon.

Depth to base of argillic horizon: 12 to 20 inches.

Depth to bedrock: 12 to 20 inches to a lithic contact.

Particle-size control section:

Clay content—40 to 60 percent.

Rock fragments—0 to 30 percent, mainly gravel.

Lithology of fragments are volcanic rocks such as rhyolite, andesite, or basalt.

Other features—Some pedons have thin E or E/B horizons.

A horizons:

Value—4 or 5 dry, 2 or 3 moist. Some pedons have a thin surface layer with value of 6 dry, but when the upper 7 inches are mixed, value is less than 5.5 dry.

Chroma—2 or 3, dry or moist.

Reaction—Slightly acid through slightly alkaline.

Organic matter content—1 to 3 percent.

Bt horizons:

Hue—5YR through 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or gravelly clay, commonly with thin subhorizons of clay loam.

Structure—Prismatic, angular blocky, subangular blocky.

Consistence—Slightly hard to very hard, dry; moderately sticky to very sticky, wet.

Reaction—Neutral or slightly alkaline.

Organic matter content—0.5 to 2 percent.

Other features—Some pedons have thin silica coats on peds and rock fragments in the lower part of the Bt horizon.

Diaz series

The Diaz series consists of moderately deep, well drained soils formed in residuum and colluvium derived from basalt or andesite. Diaz soils are on plateaus. Slopes are 4 to 8 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Fine, smectitic, mesic Xeric Haplargids

Typical pedon: Diaz very cobbly silt loam in an area of Susanville Area, Parts of Lassen & Plumas Counties, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; light brownish gray (10YR 6/2) very cobbly silt loam, dark grayish brown (10YR 4/2) moist; moderate medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; 20 percent cobbles and 20 percent gravel; slightly alkaline (pH 7.5); abrupt smooth boundary.

BAt—3 to 7 inches; brown (7.5YR 5/2) silty clay loam, brown (7.5YR 4/2) moist; moderate medium subangular blocky structure parting to strong very fine granular; slightly hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine interstitial pores; few faint films on faces of peds and lining pores; slightly alkaline (pH 7.5); clear smooth boundary.

Bt1—7 to 16 inches; pinkish gray (7.5YR 6/2) silty clay, brown (7.5YR 4/2) moist; moderate coarse prismatic structure parting to moderate medium subangular blocky; very hard, firm, moderately sticky and moderately plastic; common fine and medium roots; many very fine tubular pores; many faint clay films on faces of peds and lining pores; many pressure faces; slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bt2—16 to 21 inches; light brown (7.5YR 6/4) silty clay, brown (7.5YR 4/4) moist; weak fine and medium prismatic structure parting to moderate medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common fine and medium roots; many very fine tubular pores; common faint and distinct clay films on faces of peds and lining pores;

slightly effervescent; moderately alkaline (pH 8.0); clear smooth boundary.

Bt3—21 to 25 inches; brown (7.5YR 5/4) silty clay, brown (7.5YR 4/4) moist; weak fine and medium prismatic structure parting to moderate medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common very fine roots; common very fine tubular pores; common faint and distinct clay films on faces of peds and lining pores; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

R—25 inches; hard platy basalt; upper 3 inches are slightly weathered and with some horizontal fractures; many discontinuous coats of opaline silica and secondary carbonates; clay films coat some horizontal fractures.

Type location: Lassen County, California; in Secret Valley about 1.3 miles east of U.S. Highway 395; found by going east on a dirt road directly across from the intersection of Highway 395 and the Karlo Road, then about 330 feet north of the dirt road, and about 100 feet west of a north-south trending dirt road; approximately 2,000 feet west and 1,350 feet north of the southeast corner of section 36, T.32 N., R.15 E.; USGS Five Springs 7.5 minute topographic quadrangle; 40 degrees, 35 minutes, 19 seconds north latitude and 120 degrees, 13 minutes, 29 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soil moisture control section (4 to 12 inches) is dry throughout from June 1 to November 15 (168 days) and moist throughout from December 1 to May 1. The temperature exceeds 41 degrees F from April 1 to December 1 (245 days) and exceeds 47 degrees F from May 1 to November 25; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 48 to 52 degrees F.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to horizons with free carbonates: 7 to 17 inches.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Particle-size control section:

Clay content—Averages 35 to 60 percent.

Sand content—15 to 30 percent.

Rock fragments—0 to 15 percent, mainly gravel.

Lithology of fragments are volcanic rocks such as basalt or andesite.

Other features—Rock fragments on the surface, mostly cobbles and stones, range from 15 to 35 percent.

A horizon:

Hue—10YR or 7.5YR.
 Value—5 or 6 dry, 3 or 4 moist.
 Chroma—2 or 3.
 Texture—Very cobbly silt loam, very cobbly loam, or very cobbly silty clay loam.
 Clay content—18 to 30 percent.
 Rock fragments—35 to 45 percent, mainly cobbles.
 Reaction—Neutral or slightly alkaline.
 Structure—Moderate medium platy, moderate medium subangular blocky, or granular.

BAt horizon:

Hue—10YR or 7.5YR.
 Value—5 or 6 dry, 3 or 4 moist
 Chroma—2 through 4.
 Texture—Silty clay loam or loam.
 Clay content—20 to 35 percent.
 Rock fragments—0 to 15 percent.
 Reaction—Neutral through moderately alkaline.

Bt horizons:

Hue—10YR or 7.5YR.
 Value—5 or 6 dry, 3 or 4 moist
 Chroma—2 through 4.
 Texture—Clay, clay loam, or silty clay.
 Clay content—35 to 60 percent.
 Rock fragments—0 to 15 percent.
 Reaction—Slightly alkaline or moderately alkaline.
 Effervescence—Slightly effervescent or strongly effervescent.
 Calcium carbonate equivalent—0 to 2 percent.
 Other features—Some pedons have secondary carbonates segregated in fine filaments or threads;
 Some pedons have transitional BCt horizons or have a Bk horizon just above the bedrock.

Dismalswamp series

The Dismalswamp series consists of very deep, poorly and very poorly drained soils that formed in volcanic ash and local alluvium derived from volcanic rocks. Dismalswamp soils are in intermountain valleys. Slopes are 0 to 8 percent. The mean annual precipitation is about 30 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy, glassy Aquandic Cryaquolls

Typical pedon: Dismalswamp ashy loam in an area of map unit 379, rangeland. (Colors are for dry soil unless otherwise noted).

- A1—0 to 3 inches; dark grayish brown (10YR 4/2) ashy loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; common very fine tubular and many very fine interstitial pores; neutral, (pH 6.8); clear smooth boundary.
- A2—3 to 8 inches; dark grayish brown (10YR 4/2) ashy loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine interstitial and tubular pores; slightly acid, (pH 6.5); clear wavy boundary.
- A3—8 to 13 inches; gray (10YR 5/1) ashy loam, very dark gray (10YR 3/1) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky, slightly plastic; common very fine interstitial and tubular pores; 30 percent distinct dark yellowish brown (10YR 3/4) moist, irregular redox concentrations; 5 percent pebbles; slightly acid, (pH 6.5); clear wavy boundary.
- A4—13 to 22 inches; gray (10YR 5/1) gravelly ashy loam, very dark gray (10YR 3/1) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky, moderately plastic; common very fine interstitial and tubular pores; 30 percent distinct dark yellowish brown (10YR 3/4) moist, redox concentrations; 15 percent pebbles; slightly acid, (pH 6.2); clear wavy boundary.
- Cg1—22 to 31 inches; light brownish gray (2.5Y 6/2) gravelly ashy loam, grayish brown (2.5Y 5/2) moist; massive; soft, very friable, slightly sticky, nonplastic; few very fine and fine roots; many very fine interstitial and common very fine tubular pores; 40 percent distinct dark yellowish brown (10YR 3/4) moist, redox concentrations; 25 percent pebbles; slightly acid, (pH 6.1); clear wavy boundary.
- Cg2—31 to 60 inches; light brownish gray (2.5Y 6/2) very gravelly ashy loam, grayish brown (2.5Y 5/2) moist; massive; soft, very friable, slightly sticky, slightly plastic; few very fine and fine roots; many very fine interstitial pores; 40 percent distinct dark yellowish brown (10YR 3/4) moist, redox concentrations; 5 percent cobbles and 50 percent pebbles; moderately acid, (pH 5.8).

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; no PLSS survey available; Mt. Bidwell USGS 7.5 minute topographic quadrangle; 41 degrees, 59 minutes, 0.8 second north latitude and 120 degrees, 08 minutes, 42.5 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually saturated in some part of the moisture control section during winter, spring, and early summer, usually dry in all parts during summer and fall; seasonal periods of aquic moisture regime from November through June during saturation with ground water and anaerobic conditions.

Mean annual soil temperature: 41 to 45 degrees F.

Mean summer soil temperature: 47 to 55 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 20 to 30 inches.

Profile reaction: Moderately acid or slightly acid.

Particle-size control section:

Clay content—Averages 18 to 27 percent, (field estimates).

Rock fragments—Average 15 to 35 percent, mainly gravel or cobbles.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Organic matter content—2 to 4 percent.

Redoximorphic features—Redox concentrations occur as masses of iron or manganese accumulation in the matrix or as coats on rock fragments.

Cg1 horizon:

Texture—Ashy loam or ashy sandy loam.

Clay content—Average 18 to 27 percent.

Rock fragments—Average 15 to 35 percent.

Redoximorphic features—Redox concentrations occur as masses of iron or manganese accumulation in the matrix or as coats on rock fragments.

Organic matter content—1 to 3 percent.

Cg2 horizon:

Texture—Ashy loam or ashy sandy loam.

Clay content—Average 18 to 27 percent.

Rock fragments—Average 35 to 60 percent.

Redoximorphic features—Redox concentrations occur as masses of iron or manganese accumulation in the matrix or as coats on rock fragments.

Organic matter content—1 to 2 percent.

Donica series

The Donica series consists of very deep, somewhat excessively drained soils that formed in volcanic ash and

alluvium derived from mixed volcanic rocks. Donica soils are on lake terraces and fan remnants. Slopes are 2 to 50 percent. Mean annual precipitation is about 14 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Ashy-skeletal, glassy, mesic Vitritorrandic Haploxerolls

Typical pedon: Donica very gravelly ashy sandy loam in an area of map unit 383, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; very dark grayish brown (10YR 3/2) very gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; massive; soft, very friable, nonsticky, nonplastic; many very fine roots; many very fine interstitial pores; 55 percent pebbles; slightly acid (pH 6.5); abrupt smooth boundary.

A2—3 to 13 inches; dark grayish brown (10YR 4/2) very gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; massive; soft, very friable, nonsticky, nonplastic; many very fine, and common fine roots; many very fine interstitial and tubular pores; 45 percent pebbles and 10 percent cobbles; neutral (pH 6.6); clear wavy boundary.

Bw—13 to 29 inches; brown (10YR 5/3) extremely gravelly ashy coarse sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, nonsticky, nonplastic; very fine and few fine roots; many very fine and fine interstitial pores; 45 percent pebbles and 15 percent cobbles; neutral (pH 6.8); abrupt wavy boundary.

C—29 to 60 inches; gray (N 6/) and light gray (N 7/) and gray (N 5/) extremely gravelly ashy coarse sand with few very pale brown (10YR 8/2) and very pale brown (10YR 7/3) pebbles and sand grains, dark gray (N 4/) and gray (N 5/) moist; single grain; loose; common very fine and few fine roots decreasing to almost no roots with depth; many very fine and fine, and few medium interstitial pores; 50 percent pebbles, 10 percent cobbles, and 5 percent stones; slightly acid (pH 6.5).

Type location: Modoc County, California; about 1,500 feet east and 100 feet north of southwest corner of section 35, T.47N., R.16 E; 41 degrees, 53 minutes, 35.6 seconds north latitude and 120 degrees, 06 minutes, 26.5 seconds west longitude, NAD27; Lake Annie quadrangle.

Range in Characteristics:

Soil moisture: The soil between the depths of 12 to 36 inches is dry in all parts from June 1 until November

15 and is moist in some or all parts when the soil is warmer than 47 degrees F only from April 1 to June 1, and from October 20 to November 1. It is usually dry and is not moist more than 90 consecutive days when the soil temperature exceeds 47 degrees F.

Aridic bordering xeric soil moisture regime.

Mean annual soil temperature: 47 to 54 degrees F.

Mollic epipedon thickness: 10 to 20 inches thick.

Solum: 22 to 40 inches thick.

Volcanic ash and glass content: 30 to 60 percent volcanic glass and glass aggregates.

Profile reaction: Slightly acid or neutral.

Other features: These soils are noncalcareous.

Control section:

Texture—Averages ashy coarse sandy loam or ashy sandy loam.

Rock fragments—Averages 60 to 80 percent, mainly gravel. Lithology of the fragments is mainly tuff or tuff breccia.

A horizon:

Hue—10YR or 2.5YR.

Value—3 through 5 dry, and 2 or 3 moist.

Structure—Massive, or has weak fine or medium granular or subangular blocky structure.

Consistence—Soft or slightly hard, dry.

Bw horizon:

Hue—10YR or 7.5YR. Value—5 or 6 dry, 3 or 4 moist. (Values of 5 dry and 3 moist are allowed only in those horizons containing less than 1 percent organic matter.)

Chroma—2 or 3.

Structure—Massive, or has weak fine or medium subangular blocky structure.

Texture—Ashy sandy loam or ashy coarse sandy loam; individual subhorizons of ashy clay loam or ashy loam are in some pedons.

Rock fragments—35 to 70 percent, mainly gravel; cobbles and stones are also common.

C horizon:

Hue—10YR, 7.5YR or N.

Value—4 through 8 dry, 3 through 6 moist.

Chroma—0 through 3. Horizon color is dominated by parent rock sources.

Rock fragments—35 to 90 percent, mainly gravel; cobbles, and stones are also common.

Dosie series

The Dosie series consists of deep, well drained soils that formed in colluvium and residuum derived from basalt. Dosie soils are on plateaus and mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Clayey-skeletal, smectitic, mesic Pachic Argixerolls

Typical pedon: Dosie gravelly loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 30 percent stones, 15 percent cobbles, and 10 percent pebbles.

A1—0 to 3 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine roots; common very fine tubular and few very fine interstitial pores; 25 percent pebbles, 5 percent cobbles, and 5 percent stones; slightly acid (pH 6.4); clear smooth boundary.

A2—3 to 5 inches; brown (10YR 4/3) very gravelly loam, dark brown (7.5YR 3/2) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 40 percent pebbles and 15 percent cobbles; neutral (pH 6.6); clear wavy boundary.

Bt1—5 to 8 inches; brown (10YR 4/3) very gravelly clay loam, dark brown (7.5YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 40 percent pebbles and 15 percent cobbles; neutral (pH 6.6); clear wavy boundary.

Bt2—8 to 13 inches; brown (7.5YR 4/2) very cobbly clay, dark brown (7.5YR 3/2) moist; strong fine subangular blocky structure; hard, friable, very sticky and very plastic; few very fine, fine and medium roots; common very fine tubular pores; many distinct pressure faces; 25 percent pebbles and 30 percent cobbles; neutral (pH 6.8); clear wavy boundary.

Bt3—13 to 23 inches; dark reddish brown (5YR 3/3) very gravelly clay, dark brown (7.5YR 3/2) moist; strong fine subangular blocky structure; hard, friable, very sticky and very plastic; few very fine and fine roots; common very fine and fine tubular pores; distinct

pressure faces; 40 percent pebbles; neutral (pH 6.8); clear wavy boundary.

Bt4—23 to 41 inches; dark reddish brown (5YR 3/3) extremely gravelly clay, dark reddish brown (5YR 3/3) moist; strong very fine and fine angular blocky structure; very hard, very firm, very sticky and very plastic; few very fine and fine roots; few fine tubular pores; distinct pressure faces; 50 percent pebbles and 15 percent cobbles; neutral (pH 7.2);
R—41 inches; hard basalt.

Type location: Washoe County, Nevada; about 20 miles northwest of Gerlach in the Buffalo Hills; about 1,200 feet south and 2,500 feet west of the northeast corner of section 10, T.33 N., R.20 E.; USGS Poodle Mountain 7.5 minute topographic quadrangle; 40 degrees, 45 minutes, 41 seconds north latitude and 119 degrees, 42 minutes, 54 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter, spring, and late fall, dry in summer, early and mid fall; arid moisture regime that borders on xeric.

Soil temperature: 47 to 53 degrees F.

Mollic epipedon thickness: 20 to 41 inches, includes the upper subdivisions of the argillic horizon.

Depth to base of argillic horizon: 40 to 60 inches.

Depth to bedrock: 40 to 60 inches to a lithic contact.

Control section:

Clay content—Averages 35 to 50 percent, the Bt1 horizon typically has less than 35 percent.

Rock fragments—Averages 35 to 60 percent, mainly pebbles.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly acid or neutral.

Bt horizons:

Hue—5YR through 10YR.

Value—3 or 4, dry or moist.

Chroma—2 through 4, dry or moist.

Texture (fine-earth fraction)—Clay loam or clay.

Rock fragments—35 to 65 percent.

Structure—Subangular blocky or angular blocky.

Dugway series

The Dugway series consists of moderately deep to duripan, moderately well drained soils formed in mixed

lacustrine sediments influenced by volcanic ash. The Dugway soils are on remnant lake terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine, smectitic, mesic Natrixeralfic Natridurids

Typical pedon: Dugway fine sandy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; pale brown (10YR 6/3) fine sandy loam, dark brown (10YR 3/3) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky, slightly plastic; many very fine roots; many very fine vesicular pores; moderately alkaline (pH 8.0); abrupt wavy boundary.

A2—2 to 5 inches; light brownish gray (10YR 6/2) fine sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, slightly sticky, slightly plastic; many very fine, common very fine roots; many very fine vesicular and interstitial pores; moderately alkaline (pH 8.0); abrupt wavy boundary.

Btn—5 to 11 inches; pale brown (10YR 6/3) clay, dark brown (10YR 3/3) moist; strong fine and medium prismatic structure; very hard, firm, very sticky, very plastic; many very fine and common fine roots; common very fine tubular pores; many thin and moderately thick clay films on faces of peds and lining pores; common thin light gray (10YR 7/2) bleached sand grains on prism tops, brown (10YR 5/3) moist; strongly alkaline (pH 8.6); clear wavy boundary.

Btnk—11 to 18 inches; pale yellow (2.5Y 7/4) silty clay loam, olive brown (2.5Y 4/4) moist; moderate very fine and fine prismatic structure parting to strong very fine and fine angular blocky; hard, friable, sticky, plastic; many very fine, common fine and few medium roots; common very fine tubular pores; common thin and moderately thick clay films on faces of peds and lining pores; few fine soft masses of lime; strongly alkaline (pH 8.6); clear wavy boundary.

Bqk1—18 to 25 inches; very pale brown (10YR 7/3) silt loam, brown (10YR 4/3) moist; strong very fine and fine angular blocky structure; hard, friable, sticky, plastic; many very fine roots; many very fine tubular pores; common thin silica coats bridging mineral grains; 30 percent discontinuous weak silica and lime cementation; common fine soft masses of lime; strongly effervescent; strongly alkaline (pH 9.0); clear wavy boundary.

Bqk2—25 to 35 inches; light gray (2.5Y 7/2) silt loam, light olive brown (2.5Y 5/4) moist; strong thin and medium platy structure; hard and very hard, friable and firm, sticky, plastic; common very fine roots; common very fine tubular pores; 60 percent discontinuous weak silica and lime cementation; common thin silica coats bridging mineral grains and lining pores; common fine soft masses of lime; strongly effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

Bqkm—35 to 52 inches; pale yellow (2.5Y 7/3) continuous strongly cemented duripan, brown (10YR 5/3) moist; strong thin and medium platy structure; very hard, very firm, brittle; very common very fine and fine roots in horizontal root mat at upper boundary; few very fine tubular pores; few fine soft masses of lime; noneffervescent matrix; strongly alkaline (pH 9.0); abrupt smooth boundary.

2C—52 to 61 inches; light gray (2.5Y 7/2) stratified silt loam and silty clay loam, dark grayish brown (2.5Y 4/2) moist; massive; hard, friable, sticky, plastic; no roots observed; few very fine tubular pores; slightly effervescent; strongly alkaline (pH 9.0).

Type location: Washoe County, Nevada. About 2,000 feet west, 900 feet south of the northeast corner of section 33, T.43 N., R.19 E.; 41 degrees, 36 minutes, 33 seconds north latitude and 119 degrees, 51 minutes, 21 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from mid-June through October. These soils have a seasonal water table at depth between 5 and 6 feet. Aridic moisture regime that borders on xeric.

Soil temperature: 47 to 51 degrees F.

Depth to duripan: 20 to 40 inches.

Depth to calcium carbonates: 11 to 24 inches.

Control section:

Clay content—35 to 50 percent.

A horizon:

Value—6 or 7 dry

Chroma—2 or 3.

Reaction—Slightly alkaline or moderately alkaline.

Btn horizons:

Value—5 through 7 dry; 3 through 5 moist.

Chroma—2 through 4.

Clay content—35 to 50 percent

Texture—Silty clay loam, silty clay, clay.

SAR—13 to 45.

Effervescence—Noneffervescent to strongly effervescent in the upper part; slightly effervescent to violently effervescent in the lower part.

Reaction—Moderately alkaline or strongly alkaline.

Bqk horizon:

Value—6 through 8 dry; 4 or 5 moist.

Chroma—2 through 4.

Clay content—20 to 30 percent.

Texture—Loam, silt loam, silty clay loam.

Structure—Platy, angular blocky or subangular blocky.

Consistence—Hard or very hard dry, very friable to firm moist

Reaction—Moderately alkaline or strongly alkaline

Effervescence—Strongly effervescent or violently effervescent; few or common fine soft masses of lime.

Cementation—20 to 70 percent weak discontinuous silica cementation.

Other features—Few or common silica coats bridging mineral grains.

Bqkm horizon:

Cementation—Continuous strong silica cemented duripan.

2C horizon:

Texture—Usually stratified; dominantly silt loam, silty clay loam, but includes strata of loam, clay loam, or fine sandy loam.

Structure—Platy or is massive.

Consistence—Hard or very hard dry, very friable to very firm moist.

Emagert series

The Emagert series consists of very deep, moderately well drained soils that formed in alluvium derived from volcanic rocks and pyroclastic materials. Emagert soils are on stream terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Haploxerolls

Typical pedon: Emagert ashy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted).

A1—0 to 2 inches; grayish brown (10YR 5/2) ashy loam, very dark grayish brown (10YR 3/2) moist; moderate

thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine interstitial pores; neutral (pH 6.6); clear smooth boundary.

A2—2 to 14 inches; gray (10YR 5/1) ashy loam, very dark brown (10YR 2/2) moist; moderate coarse prismatic structure parting to moderate medium platy; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; common very fine interstitial pores; slightly alkaline (pH 7.6); clear wavy boundary.

A3—14 to 24 inches; dark gray (10YR 4/1) ashy loam, black (10YR 2/1) moist; weak medium and coarse prismatic parting to moderate medium platy structure; hard, very friable, moderately sticky and moderately plastic; common very fine through coarse roots; many very fine and fine tubular pores; fine strata or laminae; few fine distinct dark yellowish brown (10YR 3/4) moist, relict masses of iron accumulation; slightly alkaline (pH 7.6); clear wavy boundary.

A4—24 to 38 inches; gray (10YR 5/1) ashy loam, very dark gray (10YR 3/1) moist; moderate fine and medium prismatic parting to moderate medium angular blocky structure; very hard, friable, moderately sticky and moderately plastic; few very fine through coarse roots; common very fine and fine tubular pores; fine strata or laminae; few fine and medium distinct dark yellowish brown (10YR 3/4) moist, relict masses of iron accumulation; slightly alkaline (pH 7.4); clear wavy boundary.

C—38 to 48 inches; gray (10YR 6/1) ashy silty clay loam, dark gray (10YR 4/1) moist; moderate fine and medium prismatic parting to moderate medium angular blocky structure; very hard, firm, very sticky and moderately plastic; few very fine through coarse roots; common very fine and fine tubular pores; few fine distinct dark yellowish brown (10YR 3/4) moist, relict masses of iron accumulation; neutral (pH 7.3); abrupt wavy boundary.

Ab—48 to 60 inches; gray (5Y 5/1) ashy loam, very dark gray (5Y 3/1) moist; moderate fine and medium prismatic parting to moderate medium angular blocky structure; very hard, firm, moderately sticky and moderately plastic; few very fine through coarse roots; common very fine and fine tubular pores; fine strata or laminae; few fine prominent dark yellowish brown (10YR 3/4) moist, relict masses of iron accumulation and few fine prominent black (N 2.5) moist, relict masses of manganese accumulation; neutral (pH 7.2).

Type location: Washoe County, Nevada; in the upper end of High Rock Canyon about 2 miles southeast of

Stevens Camp and 1.4 miles south of the Bureau of Land Management Area of Critical Environmental Concern (ACEC) boundary; about 400 feet east and 100 feet south of the northwest corner of section 13, T.41 N., R.22 E.; USGS Yellow Hills West 7.5 minute topographic quadrangle; 41 degrees, 28 minutes, 27 seconds north latitude and 119 degrees, 27 minutes, 29 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from mid-June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 50 degrees F.

Mollic epipedon thickness: 24 to 48 inches.

Volcanic glass content: 35 to 95 percent in the coarse silt through fine sand fractions.

Control section:

Clay content—Averages 18 to 27 percent.

Rock fragments—0 to 10 percent pebbles. Lithology of fragments are volcanic rocks such as basalt and tuff.

Reaction—Slightly acid to slightly alkaline.

Other features—Organic carbon content decreases irregularly with depth.

A horizons:

Hue—10YR or 2.5Y.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 or 2, dry or moist.

Structure—Weak to moderate fine through coarse prismatic parting to platy or blocky.

Organic matter content—1 to 4 percent.

Redoximorphic features—Occur as relic masses of iron accumulation in most pedons.

C and Ab horizons:

Hue—10YR through 5Y.

Value—5 through 8 dry, 3 through 5 moist.

Chroma—1 or 2, dry or moist.

Texture—Stratified gravelly ashy loamy sand to ashy silty clay loam. Dominantly ashy loam or ashy sandy clay loam when mixed.

Structure—Weak or moderate fine to medium prismatic parting to platy or blocky, or is massive.

Redoximorphic features—Occur as relic masses of iron and manganese accumulation in most pedons.

Emamount series

The Emamount series consists of very deep, moderately well drained soils that formed in alluvium derived from

volcanic rocks and pyroclastic materials. Emamount soils are on stream terraces. Slopes are 0 to 4 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy, glassy, frigid Vitritorrandic Haploxerolls

Typical pedon: Emamount ashy loam in an area of map unit 392, rangeland (Colors are for dry soil unless otherwise noted).

- A1—0 to 5 inches; dark grayish brown (10YR 4/2) ashy loam, black (10YR 2/1) moist; moderate very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine through coarse roots; common very fine interstitial pores; neutral (pH 6.6); abrupt smooth boundary.
- A2—5 to 17 inches; dark gray (10YR 4/1) ashy loam, black (10YR 2/1) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine through coarse roots; many very fine interstitial pores; slightly alkaline (pH 7.6); clear wavy boundary.
- A3—17 to 28 inches; dark grayish brown (10YR 4/2) ashy loam, black (10YR 2/1) moist; moderate medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine, common fine and few medium and coarse roots; many very fine and common fine tubular pores; slightly alkaline (pH 7.6); clear wavy boundary.
- A4—28 to 38 inches; gray (10YR 5/1) ashy loam, very dark gray (10YR 3/1) moist; moderate fine and medium prismatic parting to strong medium subangular blocky structure; very hard, friable, moderately sticky and moderately plastic; common very fine and fine and few medium roots; many very fine and common fine tubular pores; 5 percent 5 to 10 millimeter distinct dark yellowish brown (10YR 3/4) moist, relict masses of iron accumulation; neutral (pH 7.3); slightly alkaline (pH 7.4); clear wavy boundary.
- C—38 to 50 inches; light brownish gray (10YR 6/2) ashy sandy loam, dark grayish brown (10YR 4/2) moist; weak coarse subangular blocky structure; hard, friable, moderately sticky and moderately plastic; many very fine and common fine and few medium roots; common very fine and fine tubular pores; 5 percent 5 to 10 millimeter distinct dark yellowish brown (10YR 3/4) moist, relict masses of iron accumulation; neutral (pH 7.3); abrupt wavy boundary.

Ab—50 to 60 inches; grayish brown (10YR 5/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine and common fine tubular pores; 5 percent 2 to 5 millimeter distinct dark yellowish brown (10YR 3/4) moist, relict masses of iron accumulation; neutral (pH 7.2).

Type location: Washoe County, Nevada; in Hays Canyon Range on Mountain View Creek; unsectionized; T.39 N., R.19 E.; USGS Boulder Mountain 7.5 minute topographic quadrangle; 41 degrees, 17 minutes, 00 seconds north latitude and 119 degrees, 49 minutes, 58 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from mid-June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 43 to 46 degrees F.

Mollic epipedon thickness: 24 to 50 inches.

Volcanic glass content: 35 to 95 percent in the coarse silt through fine sand fractions.

Control section:

Clay content—Averages 18 to 27 percent.

Rock fragments—0 to 10 percent pebbles. Lithology of fragments are volcanic rocks such as basalt and tuff.

Reaction—Slightly acid to slightly alkaline.

Other features—Organic carbon content decreases irregularly with depth.

A horizons:

Hue—10YR or 2.5Y.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 or 2, dry or moist.

Structure—Weak to moderate fine through coarse prismatic parting to platy or blocky.

Organic matter content—1 to 4 percent.

Redoximorphic features—Occur as relict masses of iron accumulation in most pedons.

C and Ab horizons:

Hue—10YR through 5Y.

Value—5 through 8 dry, 3 through 5 moist.

Chroma—1 or 2, dry or moist.

Texture—Stratified gravelly ashy loamy sand to ashy silty clay loam. Dominantly ashy loam or ashy sandy loam when mixed.

Structure—Weak or moderate fine to medium prismatic parting to platy or blocky, or is massive. Redoximorphic features—Occur as relict masses of iron and manganese accumulation in most pedons.

Esmod series

The Esmod series consists of shallow to duripan, well drained soils that formed in alluvium derived from volcanic rocks. The Esmod soils are on remnant fan summits. Slopes are 2 to 8 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Abrupt Xeric Argidurids

Typical pedon: Esmod very gravelly ashy fine sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 50 percent pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) very gravelly ashy fine sandy loam, very dark grayish brown (10YR 3/2) moist; strong medium and thick platy structure; hard, very friable, nonsticky and nonplastic; very fine roots; many very fine and fine vesicular pores; 50 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

A2—2 to 6 inches; pale brown (10YR 6/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; strong very thin and thin platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine and few medium and coarse roots; many very fine vesicular and interstitial pores; 30 percent pebbles; neutral (pH 7.2); abrupt wavy boundary.

Bt—6 to 15 inches; light brown (7.5YR 6/4) gravelly clay, brown (7.5YR 5/4) moist; strong fine and medium subangular blocky structure; very hard, very friable, very sticky and very plastic; common very fine, few fine and medium roots; common fine tubular pores; common thin and moderately thick clay films on faces of peds and lining pores; 15 percent pebbles; slightly alkaline (pH 7.8); abrupt wavy boundary.

Bqm—15 to 21 inches; pink (7.5YR 8/4) strongly silica cemented duripan, strong brown (7.5YR 5/6) moist; strong medium and thick platy structure; extremely hard, extremely firm; common very fine roots matted on plate surfaces; alternate horizontal light brown (7.5YR 6/4) 1 to 2 millimeter thick silica laminae on

tops of plates, brown (7.5YR 4/4) moist; moderately alkaline (pH 8.0); clear smooth boundary.

Bqkm1—21 to 28 inches; pink (7.5YR 8/4) continuous strongly silica and lime cemented duripan, strong brown (7.5YR 5/6) moist; moderate thick and very thick platy structure; extremely hard, extremely firm; many fine and medium horizontal masses of lime; many less than 0.5 millimeter lime and silica coats on underside of pebbles; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bqkm2—28 to 36 inches; very pale brown (10YR 7/4) strongly and weakly silica and lime cemented duripan, dark yellowish brown (10YR 4/6) moist; weak medium and thick platy structure; very hard, extremely firm and very firm; alternate horizontal discontinuous 0.5 to 2 millimeter silica laminae; common fine and medium horizontal lime masses; strongly effervescent; moderately alkaline (pH 8.0).

Bqkm3—36 to 60 inches; very pale brown (10YR 8/3) weakly and strongly silica and lime cemented duripan, brown (7.5YR 5/4) moist; massive; very hard, very firm; common less than 0.5 millimeter discontinuous silica laminae; many 1 to 5 millimeter horizontal soft lime masses; moderately alkaline (pH 8.0).

Type location: Washoe County, Nevada; near the Sheldon Antelope Refuge; unsectioned, T.43 N., R.22 E.; 41 degrees, 38 minutes, 03 seconds north latitude and 119 degrees, 28 minutes, 44 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry mid-June through October. Aridic bordering on xeric moisture regime.

Soil temperature: 47 to 51 degrees F.

Depth to duripan: 14 to 20 inches.

Other features: Clay increase of 15 to 25 percent occurs within a distance of 1 inch between the A and Bt horizons or between subhorizons of the Bt.

Control section:

Clay content—40 to 50 percent.

Rock fragments—Less than 20 percent mainly pebbles.

A horizon:

Value—5 through 7 dry, 2 or 3 moist.

Chroma—2 or 3.

Reaction—Neutral or slightly alkaline.

Bt horizons:

Hue—5YR, 7.5YR or 10YR.
 Value—4 through 6 dry, 3 through 5 moist.
 Chroma—3 through 6.
 Texture—Clay or gravelly clay.
 Rock fragments—Less than 20 percent, dominantly pebble-sized.
 Structure—Subangular blocky, angular blocky or prismatic parting to subangular or angular blocky.
 Reaction—Neutral or slightly alkaline.

Bqm horizons:

Hue—7.5YR or 10YR.
 Value—6 through 8 dry, 4 or 5 moist.
 Chroma—4 through 6.

Fendersflat series

The Fendersflat series consists of moderately deep, well drained soils that formed in colluvium derived from andesitic tuff, volcanic ash and volcanic rocks. Fendersflat soils are on backslopes of mountains. Slopes are 15 to 50 percent. The mean annual precipitation is about 30 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Ashy-skeletal, glassy Vitrandic Argicryolls

Typical pedon: Fendersflat gravelly ashy loam in an area of map unit 507, rangeland (Colors are for dry soil unless otherwise noted.)

- A—0 to 2 inches; grayish brown (10YR 5/2) gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate fine granular structure; soft, very friable, slightly sticky, nonplastic; many very fine roots; many very fine interstitial pores; 5 percent cobbles and 20 percent pebbles; slightly acid, (pH 6.4); clear smooth boundary.
- Bt1—2 to 7 inches; grayish brown (10YR 5/2) very gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common fine roots and many very fine roots; common very fine interstitial and tubular pores; 15 percent faint clay bridges between sand grains; 5 percent cobbles and 30 percent pebbles; slightly acid, (pH 6.5); clear wavy boundary.
- Bt2—7 to 18 inches; dark grayish brown (10YR 4/2) extremely cobbly ashy loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately

sticky, slightly plastic; common very fine to medium roots; common very fine interstitial and tubular pores; 2 percent distinct clay films on all faces of peds and 2 percent distinct clay films on surfaces along pores and 15 percent faint clay bridges between sand grains; 10 percent paragravel, 25 percent pebbles, and 40 percent cobbles; neutral, (pH 6.6); clear wavy boundary.

Bt3—18 to 25 inches; dark grayish brown (10YR 4/2) extremely cobbly ashy loam, very dark brown (10YR 2/2) moist; strong fine and medium subangular blocky structure; hard, very friable, moderately sticky, slightly plastic; common very fine to coarse roots; common very fine interstitial and tubular pores; 15 percent faint clay films on surfaces along pores and 15 percent faint clay films on faces of peds; 15 percent pebbles, 20 percent paragravel, and 45 percent cobbles; neutral, (pH 6.6); clear irregular boundary.

Cr—25 to 30 inches; weathered andesitic tuff-breccia.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 2,350 feet south and 2,500 feet west of the northeast corner of section 5, T.42 N, R.15 E; Payne Peak 7.5 minute topographic quadrangle; 41 degrees, 30 minutes, 32.3 seconds north latitude and 120 degrees, 15 minutes, 37.7 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist in winter, spring, and early summer, dry later in summer and fall; xeric moisture regime.

Mean annual soil temperature: 43 to 46 degrees F.

Mean summer soil temperature: 57 to 59 degrees F.

Depth to bedrock: 20 to 40 inches.

Oxalate extractable A1 + 1/2 iron: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 20 to 40 inches.

Reaction: Slightly acid or neutral.

Control section:

Clay content—18 to 25 percent.

Rock fragments—Averages 35 to 60 percent, mainly gravel and cobbles, with greater than 60 percent in some subhorizon in some pedons. Lithology of fragments is pyroclastic volcanic rock such as andesitic tuff.

A horizon:

Hue—10YR or 7.5 YR
 Value—4 or 5 dry, 2 or 3 moist.
 Chroma—2 or 3, dry or moist.

Organic matter content—2 to 4 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Value—2 or 3 moist.

Chroma—2 or 3, dry or moist.

Clay content—18 to 25 percent.

Rock fragments—Average 35 to 60 percent, dominated by cobbles or gravel.

Structure—Angular blocky or subangular blocky.

Organic matter content—1 to 2 percent.

Fernpoint series

The Fernpoint series consists of very deep, well drained soils formed in mixed alluvium. The Fernpoint soils are on beach terraces. Slopes are 8 to 30 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Fernpoint very gravelly sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors for dry soil unless otherwise noted).

A1—0 to 2 inches; pale brown (10YR 6/3) very gravelly sandy loam, dark brown (10YR 3/3) moist; moderate very thin and thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine vesicular and interstitial pores; 50 percent pebbles; neutral (pH 7.3); clear wavy boundary.

A2—2 to 7 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; weak very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine tubular and interstitial pores; 30 percent pebbles; neutral (pH 7.3); clear wavy boundary.

Bt1—7 to 13 inches; brown (10YR 5/3) gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine, common fine and few medium roots; many very fine tubular pores; common thin clay films on faces of peds and lining pores; 20 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—13 to 17 inches; pale brown (10YR 6/3) gravelly sandy clay loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; hard, very

friable, sticky and plastic; many very fine, common fine and few medium roots; many very fine tubular pores; common thin clay films on faces of peds and lining pores; 20 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.

C1—17 to 23 inches; light yellowish brown (10YR 6/4) gravelly sandy loam, dark yellowish brown (10YR 3/4) moist; massive; hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine and fine tubular pores; few thin clay films bridging mineral grains; 25 percent pebbles; 1 percent cobbles; slightly alkaline (pH 7.8); clear wavy boundary.

2C2—23 to 32 inches; light yellowish brown (10YR 6/4) very gravelly sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine roots; many very fine interstitial pores; 40 percent pebbles; 10 percent cobbles; slightly alkaline (pH 7.8); gradual wavy boundary.

2C3—32 to 48 inches; light yellowish brown (10YR 6/4) extremely gravelly sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 50 percent pebbles; 20 percent cobbles; 1 percent stones; slightly alkaline (pH 7.8); gradual wavy boundary.

2C4—48 to 60 inches; variegated stratified extremely gravelly sand and extremely cobbly sand; single grain; loose; few very fine roots; many very fine and fine interstitial pores; 50 percent pebbles; 20 percent cobbles; 5 percent stones; about 10 percent of rock fragments have 10 percent less than 0.5 millimeter thick lime coats on underside of pebbles; noneffervescent matrix; moderately alkaline (pH 8.0).

Type location: Washoe County, Nevada. About 7.5 miles northeast of Vya; about 1 mile east of Nevada Route 34; unsectionized; T.43 N., R.20 E.; 41 degrees, 40 minutes, 55 seconds north latitude and 119 degrees, 46 minutes, 09 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from July through October. Aridic xeric moisture regime.

Soil temperature: 47 to 51 degrees F.

Thickness of mollic: 10 to 16 inches; includes part or all of Bt horizon.

Depth to contrasting layers: 20 to 30 inches

Depth to carbonates accumulation: 40 to 50 inches.

Control section:

Clay content—18 to 25 percent

Rock fragments—15 to 35 percent pebbles

A horizons:

Value—5 or 6 dry; 3 or 4 moist. Value of 6 only in upper 2 inches.

Chroma—2 or 3.

Bt horizons:

Value—5 or 6 dry; 3 or 4 moist.

Chroma—2 or 3.

Texture—Sandy clay loam or sandy loam.

Rock fragments—15 to 30 percent pebbles.

Consistence—Slightly hard, hard dry, friable or very friable moist, sticky and plastic.

Reaction—Neutral or slightly alkaline.

C1 horizons:

Textures—Gravelly sandy loam or very gravelly sandy loam.

Rock fragments—20 to 50 percent pebbles.

Clay content—10 to 18 percent.

Reaction—Slightly alkaline or moderately alkaline.

Consistence—Hard or slightly hard dry, friable or very friable moist, slightly sticky and slightly plastic.

2C horizons:

Textures—Stratified extremely gravelly or extremely cobbly sand, coarse sand with strata of loamy sand, loamy coarse sand. Some pedons have strata of extremely stony sand.

Reaction—Slightly alkaline or moderately alkaline.

Consistence—Soft, friable or very friable, nonsticky and nonplastic.

Effervescence—Noneffervescent or slightly effervescent matrix; few or common less than 0.5 millimeter thick lime coats on underside of rock fragments.

Ferver series

The Ferver series consists of moderately deep to a duripan, well drained soils that formed in alluvium derived from volcanic rocks. Ferver soils are on plateaus. Slopes are 2 to 8 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Very-fine, smectitic, mesic Vertic Argidurids

Typical pedon: Ferver very gravelly loam in an area of Washoe County, NV, North Part, rangeland. (Colors

are for dry soil unless otherwise noted.) The soil surface is covered with about 45 percent pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; strong very thin and thin platy structure; hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine and common medium vesicular pores; 1 percent cobbles and 45 percent pebbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

A2—2 to 5 inches; light brownish gray (10YR 6/2) silt loam, dark brown (10YR 3/3) moist; strong very thick and thick platy structure; very hard, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine and fine vesicular pores; 5 percent pebbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

Btss1—5 to 15 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; strong medium and coarse prismatic structure; extremely hard, very firm, very sticky and very plastic; common very fine and fine and few medium and coarse horizontal roots; few very fine tubular pores; many distinct clay films on faces of peds and lining pores; vertical cracks 8 millimeters to 1 centimeter wide and 3 to 4 inches apart extend through horizon; few slickensides bounding wedge-shaped peds and tilted 30 degrees from the horizontal; 10 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.

Btss2—15 to 22 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/3) moist; strong fine and medium prismatic structure parting to strong very fine and fine angular blocky; very hard, firm, very sticky and very plastic; common very fine and few fine roots; common very fine tubular pores; many distinct clay films on faces of peds and lining pores; few slickensides bounding wedge-shaped peds tilted 30 degrees from the horizontal; 10 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

Btkss—22 to 28 inches; pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; moderate fine and medium prismatic structure parting to strong fine and medium angular blocky; very hard, friable, very sticky and very plastic; common very fine roots; common very fine tubular pores; common thin and moderately thick clay films on faces of peds and lining pores; 10 percent pebbles; few slickensides bounding wedge-shaped peds tilted 30 degrees from the horizontal; secondary carbonates segregated as few fine masses; moderately alkaline (pH 8.0); gradual wavy boundary.

Bqk—28 to 35 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist;

moderate medium prismatic structure parting to strong fine and medium angular blocky; hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; common silica coats bridging mineral grains; 10 percent pebbles; 5 percent 10 to 20 millimeter hard, firm durinodes; secondary carbonates segregated as 5 percent medium and coarse vertical masses along faces of prisms; 30 percent weak discontinuous silica cementation; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bqkm—35 to 46 inches; light yellowish brown (10YR 6/4) cemented material, yellowish brown (10YR 5/4) moist; strong thin and medium platy structure; extremely hard, extremely firm; strongly cemented by secondary carbonates and silica; alternate medium horizontal plates with 1 to 2 millimeter discontinuous silica laminae on top of plates; horizontal root mat at upper boundary with many very fine, fine and few medium roots; violently effervescent; secondary carbonates segregated as coats on bottoms of some peds; gradual wavy boundary.

Cr—46 to 53 inches; weathered, fractured basalt; opaline silica and secondary carbonates lining fractures.

Type location: Washoe County, Nevada; about 0.75 mile east of the California-Nevada state line and 0.4 mile north of the Barrel Springs Road; about 100 feet west and 2,100 feet north of the southeast corner of section 20, T.46 N., R.18 E.; USGS Barrel Springs 7.5 minute topographic quadrangle; 41 degrees, 53 minutes, 32 seconds north latitude and 119 degrees, 59 minutes, 03 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring; dry from mid-June through October; arid moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 51 degrees F.

Ochric epipedon thickness: 2 to 6 inches.

Depth to duripan: 20 to 40 inches.

Depth to bedrock: 40 to 60 inches to a paralithic contact.

The paralithic materials below the contact are weathered volcanic rocks such as basalt.

Particle-size control section:

Clay content—Averages 60 to 70 percent.

Rock fragments—Averages less than 15 percent, mainly pebbles. Lithology of fragments are volcanic rocks such as basalt or andesite.

Other features—An abrupt horizon boundary is normally present between the A and Btss1

horizons accompanied by an abrupt increase in clay content of 35 to 45 percent.

A horizons:

Value—5 or 6 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Neutral or slightly alkaline.

Btss1 and Btss2 horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—60 to 70 percent.

Rock fragments—0 to 15 percent, gravel and cobbles.

Consistence—Very hard to extremely hard dry, friable to very firm moist.

Reaction—Slightly alkaline or moderately alkaline.

Slickensides and other vertic features—Few to common slickensides bounding wedge-shaped peds; vertical cracks 5 to 30 millimeters wide in the Btss1 horizon.

Btkss horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—55 to 65 percent.

Rock fragments—0 to 15 percent, gravel and cobbles.

Consistence—Very hard to extremely hard dry, friable to very firm moist.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Noneffervescent or slightly effervescent.

Calcium carbonate equivalent—0 to 1 percent.

Identifiable secondary carbonates—Occurs as few fine or medium masses.

Slickensides and other vertic features—Few to common slickensides bounding wedge-shaped peds; vertical cracks 5 to 30 millimeters wide in the Btss1 horizon.

Bqk horizon:

Value—6 or 7 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Clay content—35 to 40 percent.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Noneffervescent or slightly effervescent.

Calcium carbonate equivalent—0 to 1 percent.

Durinodes—Occurs as 5 to 10 percent, 5 to 15 millimeter in diameter, strongly cemented masses.

Identifiable secondary carbonates—Occurs as few to many fine to coarse masses.

Bqkm horizon:

Value—6 through 8 dry, 4 through 6 moist.
 Chroma—3 or 4, dry or moist.
 Rupture resistance—Strongly cemented or moderately cemented.

Fiddler series

The Fiddler series consists of moderately deep, well drained soils that formed in colluvium and residuum derived from volcanic rocks. Fiddler soils are on plateaus. Slopes are 15 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Clayey-skeletal, smectitic, mesic
 Typic Argixerolls

Typical pedon: Fiddler stony loam in an area of Butte Valley-Tule Lake Area, CA, Parts of Siskiyou and Modoc Counties, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 8 inches; grayish brown (10YR 5/2) stony loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; soft, friable, slightly sticky and slightly plastic; many very fine and common fine roots; common very fine tubular pores; 20 percent stones and 5 percent cobbles; neutral (pH 7.0); clear smooth boundary.

Bt1—8 to 11 inches; brown (7.5YR 5/2) very stony clay loam, dark brown (7.5YR 3/2) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine tubular pores; common distinct clay films on faces of peds; 20 percent stones, 5 percent cobbles, and 10 percent gravel; neutral (pH 7.0); clear smooth boundary.

Bt2—11 to 21 inches; brown (7.5YR 5/4) very stony clay, brown (7.5YR 4/4) moist; strong medium subangular blocky structure; very hard, very firm, very sticky and very plastic; common very fine roots; few very fine tubular pores; common distinct clay films on faces of peds; 25 percent stones, 5 percent cobbles, and 10 percent gravel; neutral (pH 6.8); clear smooth boundary.

Bt3—21 to 26 inches; strong brown (7.5YR 5/6) very stony clay loam, brown (7.5YR 4/4) moist; moderate medium subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine roots; few very fine tubular pores; common distinct clay films on faces of peds; 20 percent

stones, 10 percent cobbles, and 10 percent gravel; slightly acid (pH 6.5); abrupt irregular boundary.
 R—26 inches; dark gray (N 4/0) hard fractured basalt.

Type location: Modoc County, California; about 10 miles east of Tule Lake on a west-facing convex slope about 510 feet west of a dirt road; approximately 1,500 feet west and 1,900 feet south of the northeast corner of section 4, T.47 N., R.6 E.; USGS Newell 7.5 minute topographic quadrangle; 41 degrees, 56 minutes, 45 seconds north latitude and 121 degrees, 17 minutes, 09 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soil is moist in some part of the moisture control section (about 6 to 18 inches) greater than half the time cumulative when the soil temperature is greater than 41 degrees F.; Dry in all parts from early July to early November (110 to 125 days); The soil temperature is greater than 41 degrees F. from mid March to early December (250 to 260 days); Xeric moisture regime that borders on aridic.

Mean annual soil temperature: 47 to 56 degrees F.

Mollic epipedon thickness: 8 to 20 inches; includes the Bt1 horizon in some pedons.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Particle-size control section:

Clay content—35 to 50 percent.

Rock fragments—35 to 55 percent, mainly stones or cobbles. Lithology of fragments are volcanic rocks such as andesite and basalt.

Reaction—Slightly acid or neutral.

Other features—Some pedons have thin, transitional BAt horizons.

A horizon:

Hue—10YR or 7.5YR

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Clay content—18 to 27 percent.

Rock fragments—15 to 35 percent.

Organic matter content—1 to 3 percent.

Bt horizons:

Hue—10YR or 7.5YR

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Very stony clay loam, very stony clay, very cobbly clay, or very cobbly clay loam.

Clay content—35 to 50 percent.
 Rock fragments—35 to 55 percent.
 Organic matter content—0.5 to 1 percent.

Fingerridge series

The Fingerridge series consists of very shallow and shallow, well drained soils that formed in volcanic ash and colluvium over residuum derived from glassy tuff or tuff-breccia. Fingerridge soils are on mountains. Slopes are 2 to 15 percent. The mean annual precipitation is about 30 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Typical pedon: Fingerridge extremely gravelly ashy loam in an area of map unit 509, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is partly covered by 70 percent gravel, 10 percent cobbles and 2 percent stones.

A—0 to 6 inches; dark grayish brown (10YR 4/2) extremely gravelly ashy loam, very dark brown (10YR 2/2), moist; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; common fine roots and few medium roots and many very fine roots; many very fine interstitial and common very fine tubular pores; 5 percent cobbles and 55 percent pebbles; slightly acid (pH 6.5); clear wavy boundary.

Bt—6 to 13 inches; brown (10YR 5/3), extremely gravelly ashy loam, dark brown (10YR 3/3), moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine to medium roots; common very fine interstitial and tubular pores; 2 percent distinct clay films on all faces of peds and 2 percent distinct clay films on surfaces along pores; 5 percent cobbles and 55 percent pebbles; slightly acid (pH 6.5); abrupt irregular boundary.

R—13 inches; hard andesitic tuff bedrock.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains 800 feet north and 1,300 feet east of the southwest corner of section 3, T.44 N, R.15 E; Payne Peak USGS 7.5 minute topographic quadrangle; 41 degrees, 37 minutes, 9.1 seconds north latitude and 120 degrees, 15 minutes, 7.9 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 43 to 47 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 7 to 14 inches.

Depth to bedrock: 7 to 14 inches to hard bedrock. The lithic materials below the contact are andesitic tuff or tuff-breccia.

Profile reaction: Slightly acid or neutral.

Particle-size control section:

Clay content—Averages 12 to 18 percent, (field estimates).

Rock fragments—60 to 80 percent, mainly gravel. Fragment lithology is tuff or tuff-breccia.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 2 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam or ashy sandy loam.

Clay content—15 to 20 percent.

Rock fragments—60 to 80 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—1 to 2 percent.

Fitzwater series

The Fitzwater series consists of deep and very deep, well drained soils that formed in colluvium derived from basalt or tuff. Fitzwater soils are on plateaus. Slopes are 30 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Aridic Haploxerolls

Typical pedon: Fitzwater loam in an area of Lake County, OR, Southern Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 4 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure breaking to moderate very fine granular; soft, very friable, slightly sticky and nonplastic; many very fine and fine roots; 5 percent gravel; neutral (pH 6.6); clear smooth boundary.

A2—4 to 10 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; moderate medium and fine subangular blocky structure; soft, friable, slightly sticky and nonplastic; many very fine and fine roots; 10 percent gravel; neutral (pH 6.6); clear smooth boundary.

2Bw—10 to 19 inches; brown (7.5YR 5/4) extremely cobbly clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; slightly hard, firm, moderately sticky and moderately plastic; common fine roots; 5 percent stones, 45 percent cobbles, and 25 percent gravel; neutral (pH 7.0); diffuse irregular boundary.

2C—19 to 60 inches; pale brown (10YR 6/3) extremely cobbly loam, brown (10YR 4/3) moist; massive; slightly hard, firm, slightly sticky and slightly plastic; few fine roots; 20 percent stones, 45 percent cobbles, and 25 percent gravel; neutral (pH 7.0).

Type location: Lake County, Oregon; about 0.75 mile west of Paiute Creek on the Hart Mountain National Antelope Refuge; in the SE 1/4 of the SW 1/4 of the NE 1/4 of section 21, T.35 S., R.26 E.; USGS Campbell Lake 7.5 minute topographic quadrangle; approximately 42 degrees, 31 minutes, 30 seconds north latitude and 119 degrees, 39 minutes, 51 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in summer and fall; these soils are dry for more than half the time when soil temperature is greater than 41 degrees F. The soil temperature is above 41 degrees F. from about March 15 to about November 15; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 7 to 12 inches.

Depth to base of cambic horizon: 10 to 40 inches.

Depth to bedrock: 40 to more than 60 inches to a lithic contact.

Particle-size control section:

Clay content—Averages 18 to 27 percent.

Sand content—30 to 50 percent.

Rock fragments—Averages 50 to 90 percent, mainly cobbles. Lithology of fragments are volcanic rocks such as basalt and tuff.

Reaction—Neutral or slightly alkaline.

A horizons:

Value—3 through 5 dry, 2 or 3 moist.

Rock fragments—0 to 40 percent stones, 0 to 40 percent cobbles, and 5 to 35 percent gravel. Loam surface texture with less than 15 percent total rock fragments is typically on slopes of 5 percent or less.

Organic matter content—1 to 3 percent.

2Bw horizon:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 or 4 moist.

Texture—Extremely cobbly loam, extremely cobbly clay loam, very cobbly loam, very cobbly clay loam, very gravelly loam, extremely gravelly loam, or extremely gravelly sandy loam.

Clay content—18 to 30 percent.

Rock fragments—0 to 15 percent stones, 5 to 50 percent cobbles, 15 to 65 percent gravel.

2C horizon:

Hue—7.5YR or 10YR.

Value—5 or 6 dry.

Chroma—3 or 4 dry.

Texture—Extremely cobbly loam, extremely cobbly sandy loam, extremely stony loam, or extremely stony sandy loam; some pedons have extremely gravelly sandy loam.

Clay content—15 to 25 percent.

Rock fragments—0 to 40 percent stones, 15 to 50 percent cobbles, 10 to 60 percent gravel.

Fluvaquents

Fluvaquents consist of very deep, very poorly and poorly drained soils that formed in alluvium derived from mixed. Fluvaquents are in stream channels. Slopes are 0 to 4 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Fluvaquents

Typical pedon: Fluvaquents very gravelly coarse sand in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with 5 percent cobbles and 50 percent pebbles.

A1—0 to 6 inches; grayish brown (10YR 5/2) very gravelly coarse sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, nonsticky and

nonplastic;; 45 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

A2—6 to 14 inches; light brownish gray (10YR 6/2) gravelly coarse sand, very dark grayish brown (10YR 3/2) moist; single grain; loose, nonsticky and nonplastic; common medium distinct light olive brown (2.5Y 5/4) moist, masses of iron accumulation; 20 percent pebbles; moderately alkaline (pH 8.0); abrupt smooth boundary.

2C1—14 to 21 inches; light brownish gray (2.5Y 6/2) clay loam, dark grayish brown (2.5Y 4/2) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; common large distinct light olive brown (2.5Y 5/4) moist, masses of iron accumulation; 10 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

3C2—14 to 21 inches; dark gray (N 4/) moist, very gravelly coarse sandy loam; massive; slightly hard, very friable, moderately sticky and moderately plastic; common medium distinct light olive brown (2.5Y 5/4) moist, masses of iron accumulation; 40 percent pebbles; slightly effervescent; moderately alkaline (pH 8.2).

Type location: Washoe County, Nevada; about 1,200 feet west and 1,200 feet north of the southeast corner of section 25, T.31 N., R.18 E.; 40 degrees, 31 minutes, 47 seconds north latitude and 119 degrees, 54 minutes, 16 seconds west longitude. NAD 27.

Range in Characteristics:

Soil moisture: Dry in late summer and fall; moist in winter, spring, and early summer; a seasonal high water table at the surface in winter and spring within a depth of 36 inches in summer and fall.

Mean annual soil temperature: 47 to 53 degrees F.

Reaction: Neutral through moderately alkaline.

Particle-size control section:

Clay content—Averages 5 to 25 percent.

Rock fragments—Averages 25 to 80 percent; 10 to 85 percent in individual strata.

C horizon:

Texture—Stratified extremely gravelly coarse sand to clay.

Four Star series

The Four Star series consists of very deep, poorly drained and very poorly drained soils that formed in volcanic ash and alluvium derived volcanic rocks. Four

Star soils are on flood plains. Slopes are 0 to 2 percent. The mean annual temperature is about 44 degrees F., and the mean annual precipitation is about 14 inches.

Taxonomic class: Ashy, glassy, frigid Aquandic Endoaquolls

Typical pedon: Four Star ashy loam in an area of map unit 400, meadow pastureland. (Colors are for moist soil unless otherwise stated.)

Oi—0 to 2 inches; dark grayish brown (10YR 4/2) slightly decomposed plant material, very dark brown (10YR 2/2) moist; massive; soft, very friable; many very fine roots; many very fine interstitial pores; neutral (pH 6.8); clear smooth boundary.

A1—2 to 8 inches; gray (10YR 5/1) ashy loam, very dark gray (10YR 3/1) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky, slightly plastic; many very fine and fine roots; many very fine interstitial pores; common fine distinct dark brown (7.5YR 3/2) iron concentrations; neutral (pH 6.6); clear wavy boundary.

A2—8 to 30 inches; grayish brown (10YR 5/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, nonsticky, nonplastic; common very fine and fine roots; many very fine and few fine tubular pores; many fine and medium faint dark brown (7.5YR 3/3) and distinct yellowish brown (10YR 5/6) iron concentrations, and few coarse prominent dark greenish gray (5BG 4/1) redox depletions in the lower part; neutral (pH 6.6); diffuse smooth boundary.

Cg—30 to 60 inches; grayish brown (2.5Y 5/2) ashy sandy loam, dark bluish gray (5BG 4/1) moist; massive; slightly hard, very friable, nonsticky, nonplastic; few very fine and fine roots; common very fine tubular, and many very fine interstitial pores; 5 percent 2 to 5 millimeter pebbles; common fine prominent dark brown (7.5YR 3/2) and common coarse prominent very dark grayish brown (10YR 3/2) iron concentrations in the upper part; slightly acid (pH 6.5).

Type location: Modoc County, California; on the Four Star ranch approximately 1,300 feet east and 1,300 feet south of the NW corner of sec. 1, T.40 N., R.16 E., Mount Diablo base line and meridian; 41 degrees, 21 minutes, 56.6 seconds north latitude and 120 degrees, 06 minutes, 44.7 seconds west longitude, NAD27; Eagleville quadrangle.

Range in Characteristics:

Soil moisture: Saturated for one month or more within 18 inches of the surface during most years, unless drained.

Mean annual soil temperature: 44 degrees to 47 degrees F.

Mollic epipedon thickness: 24 to 48 inches.

Profile reaction: Slightly acid to neutral; surface layer may range to moderately alkaline where carbonates are present.

Carbonates: Usually noncalcareous throughout, but is weakly effervescent or strongly effervescent in the upper 6 to 10 inches in some pedons.

Organic matter: These soils have an irregular decrease in organic matter.

Control section:

Texture—Predominantly ashy fine sandy loam or ashy sandy loam; light ashy loam is in some pedons. Some stratification is not unusual and is common in narrow canyon bottoms.

Clay content—Averages 7 to 18 percent.

Rock fragments—0 to 15 percent gravel.

Freznik series

The Freznik series consist of moderately deep, moderately well drained soils that formed in residuum from tuff and basalt. Freznik soils are on plateaus. Slopes are 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine, smectitic, frigid Xeric Paleargids

Typical pedon: Freznik very stony loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with about 10 percent stones, 15 percent cobbles, and 20 percent pebbles.

A—0 to 3 inches; pale brown (10YR 6/3) very stony loam, dark brown (10YR 3/3) moist; moderate thin and medium platy structure; slightly hard, very friable, sticky and plastic; many very fine and common fine roots; many very fine vesicular pores; 15 percent stones; 15 percent cobbles; 20 percent pebbles; slightly alkaline (pH 7.4); abrupt wavy boundary.

Bt1—3 to 9 inches; yellowish brown (10YR 5/4) gravelly clay, brown (10YR 4/3) moist; weak fine and medium prismatic structure parting to strong fine and medium

subangular blocky; very hard, firm, very sticky and very plastic; common very fine and fine and few medium roots; few very fine tubular pores; many moderately thick and thick clay films on faces of peds and in pores; many pressure faces on faces of peds; 20 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—9 to 15 inches; yellowish brown (10YR 5/4) clay, brown (10YR 4/3) moist; moderate medium prismatic structure parting to strong medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common very fine and fine roots; few very fine tubular pores; many moderately thick and thick clay films on faces of peds and in pores; many pressure faces of peds; 5 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bt3—15 to 23 inches; light yellowish brown (10YR 6/4) clay, dark yellowish brown (10YR 4/4) moist; moderate medium and coarse angular blocky structure; hard, very friable, very sticky and very plastic; few very fine, fine and medium roots; few very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; many pressure faces on faces of peds; 10 percent pebbles; moderately alkaline (pH 8.0); abrupt wavy boundary.

R—23 to 27 inches; hard basalt with few thin silica and lime coats in some fractures.

Type location: Washoe County Nevada; about 6 miles north of Barrel Springs Road along power line; about 1,600 feet east and 300 feet south of the northwest corner of section 15 and the Nevada-Oregon state line, T.47 N., R.18 E.; 41 degrees, 59 minutes, 45 seconds north latitude and 119 degrees, 57 minutes, 31 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist winter and spring, dry late June through October.

Soil temperature: 44 to 47 degrees F.

Depth to bedrock: 20 to 40 inches.

Other features: Clay increase of 15 to 25 percent clay within one inch between the A and Bt horizon.

Control section:

Clay content—40 to 60 percent.

Rock fragments—0 to 35 percent, mainly pebbles.

A horizon:

Value—4 through 6 dry, 3 or 4 moist.

Chroma—1 through 3.

Reaction—Neutral to moderately alkaline.

Bt horizon:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—3 through 6.

Structure—Prismatic, angular blocky or subangular blocky in the upper part and blocky or massive in the lower part.

Reaction—Neutral to moderately alkaline, commonly increasing with depth.

Effervescence—Noneffervescent in the upper part and noneffervescent or slightly effervescent in the lower part.

Other features—Some pedons have a BCt horizon 2 to 7 inches thick. It is clay loam or clay with 30 to 45 percent clay.

structure parting to strong fine angular blocky ; hard, firm, very sticky and very plastic; few fine and very fine roots; few fine and very fine tubular pores; many moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); abrupt wavy boundary.

Bqkm—16 to 26 inches; light yellowish brown (10YR 6/4) indurated duripan, brown (10YR 4/3) moist; very thick platy structure; extremely hard, extremely firm; root mat on surface; strongly effervescent; slightly alkaline (pH 7.6); gradual wavy boundary.

2Bqk—26 to 60 inches; light gray (10YR 7/2) very cobbly sandy loam, brown (10YR 5/3) moist; massive; slightly hard; friable, nonsticky and nonplastic; 40 percent thin to thick weakly silica-lime cemented horizontal layers and masses; 20 percent cobbles, 30 percent pebbles; strongly effervescent; slightly alkaline (pH 7.8).

Fulstone series

The Fulstone series consists of shallow to a duripan, well drained soils that formed in alluvium derived from mixed igneous rocks. Fulstone soils are on fan remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 51 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Abrupt Xeric Argidurids

Typical pedon: Fulstone very gravelly sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 5 percent cobbles and 40 percent pebbles.

A—0 to 4 inches; light brownish gray (10YR 6/2) very gravelly sandy loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; few very fine and fine roots; common fine and very fine interstitial and tubular pores; 5 percent cobbles, 40 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bt1—4 to 10 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; strong medium prismatic structure parting to strong fine and medium angular blocky; very hard, firm, very sticky and very plastic; common fine and very fine roots; few fine and very fine tubular pores; continuous pressure faces; neutral (pH 7.0); clear wavy boundary.

Bt2—10 to 16 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; moderate medium prismatic

Type location: Washoe County, Nevada; about 0.6 mile northeast of Stevens Camp; about 2,200 feet north and 300 feet west of the southeast corner of section 3, T.41 N., R.22 E.; 41 degrees, 29 minutes, 42 seconds north latitude and 119 degrees, 28 minutes, 47 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry from June through October; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 49 to 55 degrees F.

Ochric epipedon thickness: 1 to 5 inches.

Depth to base of argillic horizon: 14 to 20 inches.

Depth to indurated duripan: 14 to 20 inches.

Particle-size control section:

Clay content—45 to 60 percent.

Rock fragments—0 to 15 percent with individual horizons ranging to as high as 20 percent.

Lithology of fragments are mixed igneous rocks such as andesite, basalt, tuff, or granodiorite.

Other features—An abrupt horizon boundary is present between the A and Bt1 horizons accompanied by an increase in clay content of 15 percent or more; Some pedons have a thin Bt3 horizon with clay or clay loam texture.

A horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—1 through 3, dry or moist.

Clay content—5 to 30 percent.

Reaction—Slightly acid through slightly alkaline.

Bt horizons:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.
 Chroma—2 through 6, dry or moist.
 Texture—Clay or gravelly clay.
 Clay content—45 to 60 percent.
 Rock fragments—0 to 20 percent gravel due to mixing by burrowing animals.
 Structure—Prismatic, angular blocky, or subangular blocky.
 Reaction—Neutral through moderately alkaline.

Bqkm1 horizon:

Cementation—Very strongly cemented or indurated, but broken in some places by burrowing animals.

2Bqk horizons:

Texture—Very cobbly sandy loam, extremely cobbly sandy loam, or extremely gravelly sand.
 Clay content—5 to 15 percent.
 Rock fragments—50 to 85 percent gravel and some cobbles.
 Reaction—Slightly alkaline through strongly alkaline.
 Other features—Some pedons have up to 40 percent durinodes; Some pedons have texture of extremely gravelly sandy clay with up to 50 percent clay.

Glasshawk series

The Glasshawk series consists of shallow over duripan, well drained soils that formed in volcanic ash and alluvium from volcanic and sedimentary rocks underlain by tuff. The Glasshawk soils are on relict beaches. Slopes are 2 to 8 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Ashy, glassy, mesic, shallow Cambidic Haplodurids

Typical pedon: Glasshawk very gravelly ashy loam in an area of map unit 456, rangeland. (Colors are for dry soils unless otherwise noted.)

A1—0 to 2 inches; light gray (10YR 7/2) very gravelly ashy loam, brown (10YR 4/3) moist; strong medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular pores; slightly effervescent; 50 percent igneous gravel; strongly alkaline (pH 9.0); abrupt wavy boundary.
 A2—2 to 7 inches; light gray (10YR 7/2) ashy loam, brown (10YR 5/3) moist; strong very thick platy structure; slightly hard, very friable, slightly sticky and

slightly plastic; few very fine roots; many very fine vesicular pores; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bqk—7 to 12 inches; light yellowish brown (10YR 6/4) gravelly ashy loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots and common medium; common very fine tubular pores; 25 percent strong silica-lime cemented duripan fragments; violently effervescent; 10 percent igneous gravel; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bqkm1—12 to 16 inches; very pale brown (10YR 8/2) strongly silica-lime cemented duripan, pale brown (10YR 6/3) moist; strong very thick platy structure; extremely hard, extremely firm; 75 percent strongly silica-lime cemented; 20 percent silica coats on plates; 50 percent cemented gravel and 5 percent cobbles; strongly alkaline (pH 8.8); clear irregular boundary.

Bqkm2—16 to 24 inches; very pale brown (10YR 8/2) strongly silica-lime cemented duripan, yellowish brown (10YR 5/4) moist; moderate thick platy structure; extremely hard, extremely firm; 90 percent strongly silica-lime cemented; 20 percent silica coats on plates; 10 percent 1 to 3 millimeter discontinuous silica laminae; strongly alkaline (pH 9.0); clear wavy boundary.

Bqkm3—24 to 35 inches; very pale brown (10YR 7/3) strongly silica-lime cemented duripan, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; extremely hard, extremely firm; 90 percent strongly silica-lime cemented, 10 percent indurated; 20 percent silica coats on plates; many very fine through medium roots in horizontal pockets; moderately alkaline (pH 8.2); clear wavy boundary.

Bqkm4—35 to 46 inches; very pale brown (10YR 8/3) strongly silica-lime cemented duripan, yellowish brown (10YR 5/4) moist; massive; extremely hard, extremely firm; 20 percent silica-lime coats in horizontal fractures; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bqkm5—46 to 48 inches; very pale brown (10YR 8/2) strongly silica-lime cemented duripan, very pale brown (10YR 7/3) moist; extremely hard, extremely firm; many 0.5 millimeter lime coats on plates; moderately alkaline (pH 8.0); abrupt wavy boundary.

Crqk—48 to 60 inches; light gray (10YR 7/2) and light gray (2.5Y 7/2) tuff breccia, pale yellow (2.5Y 8/2) and light olive brown (2.5Y 5/3) moist; very thick platy rock structure; 0.5 to 1 millimeter thick silica-lime coats on plates; few 0.5 to 1 millimeter silica pendants; moderately alkaline (pH 8.0).

Type location: Washoe County Nevada; on the southeast side of Duck Flat; about 1,600 feet west and 600 feet south of the northwest corner of section 26, T.36 N., R.20 E.; 40 degrees, 58 minutes, 33.2 seconds north latitude and 119 degrees, 41 minutes, 50.4 seconds west longitude; NAD27; Hillside Spring 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring, dry late May through November. Aridic soil moisture regime.

Soil temperature: 47 to 50 degrees F.

Depth to duripan: 10 to 14 inches.

Depth to paralithic contact: 40 to 60 inches.

Control section:

Clay content—Averages 8 to 15 percent.

Rock fragments—5 to 30 percent, mainly volcanic pebbles.

Mineralogy—40 to 60 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

A horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry.

Sodicity—SAR, 13 to 30.

Bqk horizons:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4

Clay content—Averages 8 to 15 percent.

Rock fragments—15 to 35 percent, mainly volcanic pebbles.

Structure—Weak or moderate, thin to thick, platy, subangular blocky, or horizon is massive.

Reaction—Slightly alkaline to strongly alkaline.

Sodicity—SAR, 30 to 50.

Gorzell series

The Gorzell series very, well drained soils that formed in mixed alluvium over lacustrine sediments derived from tuff, andesite, and basalt. Gorzell soils are on beach terraces. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Durinodic Xeric Haplargids

Typical pedon: Gorzell gravelly loam in an area of map unit 498, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; light brownish gray (2.5Y 6/2) gravelly loam, with upper 1/2 inch being light gray (10YR 7/2), very dark grayish brown (10YR 3/2) moist; weak medium platy structure; slightly hard, friable, nonsticky, slightly plastic; many very fine and fine, and few coarse roots; many fine and medium vesicular pores; 25 percent pebbles; neutral (pH 6.6); clear smooth boundary.

A2—3 to 8 inches; light brownish gray (10YR 6/2) gravelly loam, dark brown (10YR 3/3) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; common very fine and fine, and few coarse roots; many very fine tubular and interstitial pores; effervescent; 20 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

Bt—8 to 12 inches; light gray (10YR 7/2) gravelly clay loam, dark grayish brown (10YR 4/2) moist; few to common medium faint pockets of brown (10YR 5/3); massive; hard, friable, sticky, plastic; common very fine and fine, and few coarse roots; many very fine tubular and interstitial pores; common thin clay films coating rock fragments and in pores, and few thin clay bridges; strongly effervescent; 20 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

Bqk—12 to 30 inches; light gray (10YR 7/2) gravelly clay loam, dark grayish brown (10YR 4/2) moist; massive; very hard, firm, nonsticky, nonplastic; weakly silica-lime cemented, with few to common randomly oriented silica laminae and common very thin silica films lining pores and bridging sand grains; common very fine and fine roots; many very fine tubular and interstitial pores; violently effervescent; 25 percent pebbles; strongly alkaline (pH 8.6); clear wavy boundary.

2Ck—30 to 60 inches; light gray (10YR 7/2) very gravelly loamy sand, light brownish gray (10YR 6/2) moist; massive; soft, very friable, nonsticky, nonplastic; few very fine and fine roots; many very fine and fine, and few medium interstitial pores; violently effervescent, very pale brown (10YR 8/2) lime coats on undersides of pebbles; 50 percent pebbles; strongly alkaline (pH 8.9).

Type location: Modoc County, California; approximately 150 feet north and east of the apparent center of section 29, T.45 N. R.17 E., Mount Diablo base line and meridian. 41 degrees, 44 minutes, 28 seconds north latitude and 120 degrees, 03 minutes, 17 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry during most year, mainly during the summer and early fall months, but are moist more than 1/4 of the time the soil temperature is more than 41 degrees F.

Mean annual soil temperature: 47 degrees to 51 degrees F.

Depth to the weakly silica-cemented horizons: 10 to 18 inches

Control section:

Clay content—25 to 35 in the upper part and less than 8 in the lower part.

Rock fragments—15 to 35 in the upper part and 35 to 60 percent in the lower part.

A horizon:

Hue—2.5Y or 10YR.

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3. (After the first 7 inches are mixed, values are higher than 5.5 dry and 3.5 moist.)

Structure—Weak or moderate, thin to thick platy structure or is massive.

Consistence—Soft to slightly hard, dry.

Reaction—Neutral to slightly alkaline.

Effervescence—Noneffervescent to slightly effervescent.

Bt horizon:

Value—6 or 7 dry, 3 or 4 moist

Chroma—2 through 4.

Texture—Gravelly sandy clay loam, gravelly clay loam or gravelly loam.

Reaction—Moderately alkaline to strongly alkaline.

Effervescence—Slightly effervescent to strongly effervescent.

Bqk horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—1 through 3.

Texture—Gravelly sandy clay loam, gravelly clay loam or gravelly loam.

Reaction—Moderately alkaline to strongly alkaline.

Rock fragments—15 to 35 percent, dominantly gravel.

Silica—Bridging sand grains and coating pores.

2Ck horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 through 6 moist.

Chroma—2 or 3.

Texture—Very gravelly loamy sand or very gravelly sand.

Reaction—Strongly alkaline to very strongly alkaline.

Rock fragments—35 to 60 percent, dominantly gravel.

Structure—Single grain or massive.

Grassy can series

The Grassy can series consists of very shallow and shallow to a duripan, well drained soils that formed in residuum derived from volcanic rocks. Grassy can soils are on plateaus. Slopes are 0 to 15 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Abrupt Xeric Argidurids

Typical pedon: Grassy can very gravelly fine sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 4 percent stones, 10 percent cobbles and 45 percent pebbles.

A1—0 to 1 inch; grayish brown (10YR 5/2) very gravelly fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; few very fine roots; common very fine interstitial pores; 5 percent stones, 5 percent cobbles, and 40 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

A2—1 to 4 inches; light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 15 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bt1—4 to 7 inches; pinkish gray (7.5YR 6/2) clay loam, brown (7.5YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; many distinct clay films on faces of peds; 10 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bt2—7 to 12 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; moderate fine prismatic structure parting to strong fine angular blocky; hard, firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; common distinct clay films on faces of peds; 10 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bqm—12 to 13 inches; cemented material; extremely hard, extremely firm; continuous 0.5 to 1.0 inch thick platy material indurated by opaline silica; abrupt wavy boundary.

R—13 inches; hard, unweathered basalt.

Type location: Washoe County, Nevada; about 3 miles southeast of Stevens Camp and 2.5 miles east of Grassy Canyon; about 1,500 feet south and 2,600 feet east of the northwest corner of section 21, T.41 N., R.22 E.; USGS Nellie Spring Mountain 7.5 minute topographic quadrangle; 41 degrees, 27 minutes, 12 seconds north latitude and 119 degrees, 30 minutes, 28 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry mid-June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 50 degrees F.

Depth to very thin duripan: 7 to 14 inches.

Depth to bedrock: 7 to 14 inches to a lithic contact.

Particle-size control section:

Clay content—35 to 50 percent.

Rock fragments—Averages 5 to 10 percent, mainly gravel. Lithology of fragments are volcanic rocks such as basalt or andesite.

Other features—An abrupt horizon boundary is present between the A and Bt1 horizons accompanied by an increase in clay content of 15 or more percent.

A horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Clay content—8 to 18 percent.

Reaction—Slightly acid to slightly alkaline.

Bt horizons:

Hue—5YR through 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay or clay loam.

Clay content—35 to 50 percent.

Rock fragments—0 to 15 percent gravel, 0 to 5 percent cobbles.

Structure—Subangular blocky or angular blocky in the upper part, prismatic parting to angular blocky in the lower part.

Bqm horizon:

Other features—Some pedons have minor amounts of identifiable secondary carbonates.

Grimlake series

The Grimlake series consists of very deep, moderately well drained soils that formed in mixed alluvium from basalt, andesite and tuff. Grimlake soils are on alluvial flats and lake plains. Slopes are 0 to 2 percent. Mean annual precipitation is about 13 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Fine, smectitic, frigid Aquic Haploxererts

Typical pedon: Grimlake cobbly clay in an area of map unit 590, rangeland (Colors for dry soils unless otherwise noted). Vertical cracks 0.5 to 2 inches wide extend from the soil surface to a depth of 22 inches.

A1—0 to 2 inches; dark gray (10YR 4/1) cobbly clay, very dark gray (10YR 3/1) moist; moderate medium prismatic structure parting to strong medium and coarse angular blocky; very hard, friable, very sticky and very plastic; many very fine roots; many very fine interstitial and tubular pores; vertical cracks 0.5 to 2 inches wide extend from the soil surface to 22 inches; 10 percent igneous gravel and 10 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

A2—2 to 5 inches; gray (10YR 5/1) clay, very dark gray (10YR 3/1) moist; strong medium prismatic structure parting to strong medium angular blocky; very hard, firm, very sticky and very plastic; many very fine and common fine roots; common very fine tubular pores; many pressure faces; vertical cracks 0.5 to 2 inches wide extend from the soil surface to 22 inches; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bss—5 to 14 inches; gray (10YR 5/1) clay, very dark gray (10YR 3/1) moist; strong medium and coarse prismatic structure; extremely hard, firm, very sticky and very plastic; common very fine and few fine roots; few very fine tubular pores; many pressure faces; many 2 to 4 inch wedge-shaped aggregates; common 1 to 3 inch slickensides; vertical cracks 0.5 to 2 inches wide extend from the soil surface to 22 inches; few vertical cracks 2 to 3 inches wide; slightly alkaline (pH 7.8); clear wavy boundary.

Bkss1—14 to 22 inches; grayish brown (10YR 5/2) clay, very dark grayish brown (10YR 3/2) moist; moderate coarse prismatic structure; extremely hard, firm, very sticky and very plastic; common very fine and few fine roots; few very fine tubular pores; many pressure faces; many 0.5 to 2 inch slickensides; many 0.5 to 1 inch wedge-shaped aggregates; vertical cracks 0.5 to 2 inches wide extend from the soil surface to 22 inches; 3 percent 2 to 10 millimeter soft masses of carbonates; moderately alkaline (pH 8.4); clear wavy boundary.

Bkss2—22 to 28 inches; gray (10YR 5/1) clay, very dark gray (10YR 3/1) moist; weak coarse prismatic structure parting to strong coarse angular blocky; very hard, firm, very sticky and very plastic; few very fine roots; few very fine tubular pores; common 0.5 to 1 inch wedge-shaped aggregates; few 0.5 to 2 inch slickensides; common fine distinct dark grayish brown (10YR 4/2) moist redox concentrations; 10 percent 2 to 20 millimeter soft masses of carbonates; slightly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bkss3—28 to 32 inches; pale brown (10YR 6/3) clay, brown (10YR 4/3) moist; moderate medium and coarse angular blocky structure; very hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; common 0.5 to 1 inch wedge-shaped aggregates; few 0.5 to 2 inch slickensides; 10 percent igneous-basalt gravel; common fine distinct yellowish brown (10YR 5/4), dark yellowish brown (10YR 3/4) moist, few fine distinct black (10YR 2/1) and black (10YR 2/1) moist redox concentrations; 8 percent 2 to 15 millimeter soft carbonate masses; slightly effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

2Bk2—32 to 43 inches; light gray (2.5Y 7/2) sandy clay loam, dark grayish brown (10YR 4/2) moist; weak medium and coarse angular blocky structure; extremely hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores and few fine pores; many pressure faces; few 10 to 15 millimeter slickensides; few 5 to 10 millimeter wedge-shaped aggregates; 10 percent igneous-basalt gravel; common fine distinct dark grayish brown (10YR 4/2), dark yellowish brown (10YR 3/4) moist, few fine distinct black (10YR 2/1) and black (10YR 2/1) moist redox concentrations; 10 percent 2 to 5 millimeter soft masses of carbonates; moderately alkaline (pH 8.4); clear wavy boundary.

3Bkq—43 to 60 inches; very pale brown (10YR 7/3) very cobbly clay loam, brown (10YR 4/3) moist; weak medium angular blocky structure; hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; many pressure faces; 25 percent igneous-basalt gravel, 10 percent cobbles and 5 percent stones; 1 percent 1 to 5 millimeter soft masses of carbonates; upper surface of rock fragments have 1 to 2 millimeter thick carbonate coats; few 1 to 2 millimeter thick silica coats on underside of rock fragments; moderately alkaline (pH 8.0).

Type location: Washoe County, Nevada near Pilgrim Lake; about 0.25 mile north of Buckhorn Road and 0.5 mile east of the CA-NV state line; about 3,900

feet west and 1,700 feet south of the northeast corner of section 29, T.35 N., R.18 E.; 40 degrees, 53 minutes, 11.7 seconds north latitude and 119 degrees, 59 minutes, 20.8 seconds west longitude, NAD27. USGS Burnt Lake 7.5 minute topographic quadrangle.

Range in Characteristics:

Soil moisture: Usually dry in the soil moisture control section; moist in winter and spring, dry summer and fall.

Aquic conditions: Saturated within a depth of 28 to 40 inches in winter and spring in most years.

Soil temperature: 43 to 47 degrees F.

Depth to carbonates: 12 to 40 inches

Control section:

Clay content—40 to 60 percent

Other features—When dry, vertical cracks 0.5 inches to 4 inches wide extend from the soil surface to a depth of 20 to 30 inches or more. The cracks are closed in winter and spring.

A horizons:

Hue—10YR or 2.5Y

Value—4 or 5 dry, 2 through 3.5 moist

Reaction—Neutral or slightly alkaline

Bss horizons:

Hue—10YR or 2.5Y

Value—4 or 5 dry, 2 or 3 moist

Structure—Prismatic or angular blocky

Reaction—Slightly or moderately alkaline

Effervescence—Noneffervescent or slightly effervescent

Other features—Common or many slickensides and wedge-shaped aggregates

Bkss horizons:

Hue—10YR or 2.5Y

Value—4 through 6 dry, 2 through 4 moist

Chroma—1 to 3.

Structure—Prismatic or angular blocky

Reaction—Slightly or moderately alkaline

Effervescence—Noneffervescent or slightly effervescent

Identifiable secondary carbonates—2 to 20 millimeter diameter soft masses

Other features—Few to many slickensides and wedge-shaped aggregates. None through common distinct redox concentrations

2Bk horizons:

Hue—10YR or 2.5Y

Value—5 through 7 dry, 3 or 4 moist
 Chroma—2 or 3
 Texture—Sandy clay loam or clay loam
 Clay content—30 to 39
 Rock fragments—5 to 30 percent, mainly basalt gravel
 Reaction—Moderately alkaline or slightly alkaline
 Effervescence—Non-effervescent or slightly effervescent
 Identifiable secondary carbonates—0.5 to 10 millimeter diameter soft masses in most pedons

3Bkq horizon:

Hue—10YR or 2.5Y
 Value—5 through 7 dry, 3 or 4 moist
 Chroma—2 or 3
 Texture—Sandy clay loam or clay loam
 Clay content—30 to 39
 Rock fragments—35 to 60 percent, mainly basalt cobbles and gravel, includes 0 to 10 percent stones
 Reaction—Moderately alkaline or slightly alkaline
 Effervescence—Non-effervescent or slightly effervescent
 Identifiable secondary carbonates—0.5 to 10 millimeter diameter soft masses in most pedons

Gurlidawg series

The Gurlidawg series consists of moderately deep, well drained soils that formed in volcanic ash and colluvium over residuum derived from glassy tuff. Gurlidawg soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 40 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy Xeric Vitricryands

Typical pedon: Gurlidawg very gravelly ashy sandy loam in an area of map unit 413, forestland. (Colors are for dry soil unless otherwise noted).

Oe—0 to 1 inch; dark grayish brown (10YR 4/2) very gravelly moderately decomposed plant material, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine roots; many very fine interstitial pores; 35 percent pebbles; strongly acid, (pH 5.2); clear smooth boundary.

A—1 to 6 inches; yellowish brown (10YR 5/4) very gravelly ashy sandy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky, nonplastic; many very fine

to coarse roots; many very fine interstitial and few very fine tubular pores; 45 percent pebbles; strongly acid, (pH 5.2); clear wavy boundary.

Bw1—6 to 15 inches; yellowish brown (10YR 5/4) very gravelly ashy sandy loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, nonplastic; common very fine and fine roots and many medium and coarse roots; few very fine tubular and many very fine interstitial pores; 55 percent pebbles; slightly acid, (pH 6.1); clear wavy boundary.

Bw2—15 to 23 inches; light yellowish brown (10YR 6/4) extremely gravelly ashy sandy loam, dark yellowish brown (10YR 4/4) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky, nonplastic; many fine to coarse roots and common very fine roots; few very fine tubular and many very fine interstitial pores; 65 percent pebbles; slightly acid, (pH 6.2); clear wavy boundary.

Bw3—23 to 30 inches; pale brown (10YR 6/3) extremely gravelly ashy sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; common very fine to coarse roots; common very fine tubular and many very fine interstitial pores; 75 percent pebbles; slightly acid, (pH 6.2); gradual wavy boundary.

Cr—30 to 36 inches; weathered andesitic tuff-breccia.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains 1,100 feet north and 2,600 feet west of the southeast corner of section 5, T.47 N., R.16 E.; Mount Bidwell USGS 7.5 minute topographic quadrangle; 41 degrees, 58 minutes, 5 seconds north latitude and 120 degrees, 9 minutes, 48 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 41 to 45 degrees F.

Mean summer soil temperature: 44 to 47 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.4 to 1 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Depth to bedrock: 20 to 40 inches to a paralithic contact. The paralithic materials below the contact are weathered pyroclastic andesitic tuff.

Profile reaction: Slightly acid to strongly acid.

Particle-size control section:

Clay content: Averages 10 to 18 percent, (field estimates).

Rock fragments—Averages 60 to 80 percent, mainly gravel.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Rock fragments—Averages 35 to 60 percent, mainly gravel or cobbles.

Organic matter content—1 to 4 percent.

Bw horizons:

Hue—10YR or 7.5YR.

Texture—Ashy loam or ashy sandy loam.

Clay content—10 to 18 percent.

Rock fragments—Averages 60 to 80 percent, subhorizons with 35 to 60 percent rock fragments are in some pedons.

Structure—Weak to strong, fine to coarse subangular blocky.

Halvert series

Halvert series consists of moderately deep, well drained soils formed in colluvium and alluvium from basalt and andesite. Halvert soils are on plateaus. Slopes are 0 to 8 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Very-fine, smectitic, mesic Vertic Durixerolls

Typical pedon: Halvert gravelly loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; strong thin and medium platy structure; hard, very friable, sticky, plastic; many very fine roots; many very fine vesicular and interstitial pores; 5 percent cobbles, 15 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

A2—2 to 5 inches; brown (7.5YR 5/2) gravelly clay loam, dark brown (7.5YR 3/2) moist; strong very fine and fine subangular blocky structure; hard, very friable, sticky, plastic; many very fine and common fine roots; many very fine tubular, common very fine vesicular pores; 5 percent cobbles, 15 percent pebbles; common thin pinkish gray (7.5YR 7/2) uncoated sand grains on horizontal faces of peds; slightly alkaline (pH 7.6); abrupt wavy boundary.

Btss—5 to 21 inches; brown (7.5YR 4/3) clay, dark brown (7.5YR 3/3) moist; moderate fine and medium prismatic structure parting to strong very fine and fine angular blocky; extremely hard, very firm, very sticky, very plastic; common very fine and few fine roots; few very fine tubular pores; many thin and moderately thick clay films on faces of peds and lining pores; vertical cracks 8 millimeters to 1 centimeter wide and 4 to 6 inches apart extend from a depth of 5 to 18 inches; few slickensides; few wedge-shaped aggregates tilted 30 degrees from horizontal; 10 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

Btqk—21 to 27 inches; pink (7.5YR 7/4) gravelly clay, brown (7.5YR 5/4) moist; strong medium and coarse angular blocky structure; hard, friable, very sticky, very plastic; common very fine roots; common very fine tubular pores; many moderately thick and thick clay films on faces of peds and lining pores; 10 percent cobbles, 10 percent pebbles; 0.5 to 1.0 millimeter thick silica and lime coats on 50 percent of underside of rock fragments; few fine soft masses of lime; moderately alkaline (pH 8.4); abrupt wavy boundary.

Bqkm—27 to 32 inches; continuous 2 to 3 millimeter silica laminae capped indurated duripan; strong thin and medium platy structure; extremely hard, extremely firm; alternate medium horizontal plates with laminar cap; horizontal root mat at upper boundary with many very fine, fine and few medium roots; violently effervescent in few places; clear smooth boundary.

Cr—32 to 40 inches; fractured basalt with clay and silica in fractures

Type location: Washoe County, Nevada. On the Barrel Springs road at the Nevada-California state line; about 1,700 feet north and 75 feet east of the southwest corner of section 20, T.46 N., R.18 E.; 41 degrees, 53 minutes, 30 seconds north latitude and 119 degrees, 59 minutes, 52 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from July through October. Xeric Aridic moisture regime.

Soil temperature: 47 to 51 degrees F.

Thickness of mollic: 12 to 24 inches

Depth to duripan: 20 to 32 inches

Depth to bedrock: 24 to 40 inches

Control section:

Clay content—60 to 70 percent

Rock fragments—10 to 25 percent, mainly pebbles

A horizons:

Value—5 or 6 dry, 2 or 3 moist, value of 6 only in upper 2 inches.

Chroma—2 or 3

Reaction—Neutral or slightly alkaline

Btss horizon:

Hue—10YR or 7.5YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—3 or 4

Clay content—60 to 70 percent in the upper part.

Texture—Clay or gravelly clay

Rock fragments—10 to 25 percent, mainly pebbles.

Consistence—Hard through extremely hard dry, friable to very firm moist.

Reaction—Slightly alkaline or moderately alkaline.

Other features—Vertical cracks 5 to 25 millimeters wide, few to common slickensides and wedge-shaped aggregates. Clay increase of 25 to 35 percent within a vertical distance of 1 inch between the A and Btss horizons.

Btqk horizon:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—3 or 4.

Clay content—55 to 65 percent.

Reaction—Slightly or moderately alkaline.

Effervescence—Noneffervescent or slightly effervescent; few fine or medium soft masses of lime.

Bqkm horizon:

Cementation—Continuous 2 to 3 millimeter silica laminae capped indurated duripan.

Hangrock series

The Hangrock series consists of shallow to a duripan, well drained soils that formed in alluvium derived from volcanic rocks and vitric pyroclastic materials. Hangrock soils are on fan piedmonts. Slopes gradients are 2 to 15 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy, glassy, mesic, shallow
Haploxeralfic Argidurids

Typical pedon: Hangrock very gravelly ashy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The

soil surface is covered by approximately 40 percent pebbles and 5 percent cobbles.

A—0 to 4 inches; light brownish gray (10YR 6/2) very gravelly ashy loam, dark brown (10YR 3/3) moist; moderate medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine interstitial pores; 35 percent pebbles; neutral (pH 6.6); clear smooth boundary.

Bt1—4 to 9 inches; pale brown (10YR 6/3) gravelly ashy clay loam, brown (10YR 4/3) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; common very fine and fine roots; common very fine tubular pores; common thin clay films on faces of pedis; 15 percent pebbles; neutral (pH 6.6); clear smooth boundary.

Bt2—9 to 17 inches; light yellowish brown (10YR 6/4) gravelly ashy clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine prismatic parting to strong medium subangular blocky structure; hard, friable, sticky and plastic; common very fine and fine roots; common very fine tubular pores; common moderately thick clay films on faces of pedis; 15 percent pebbles; neutral (pH 6.8) abrupt wavy boundary.

Bqm—17 to 24 inches; strongly cemented duripan with fractured discontinuous lenses of very rigid material; massive; extremely hard, extremely firm; 30 percent pebbles; slightly alkaline (pH 7.4); gradual wavy boundary.

Bqkm—24 to 60 inches; strongly cemented duripan consisting of many strongly cemented plates with weakly cemented material between the plates; 30 percent pebbles; thin lime coatings on some rock fragments and duripan fragments; strongly effervescent matrix; slightly alkaline (pH 7.6).

Type location: Washoe County, Nevada; about 1 1/2 miles southeast of Hanging Rock Canyon; 2,200 feet north and 200 feet east of the southwest corner of section 31, T.42 N., R.23 E.; 41 degrees, 30 minutes, 35 seconds north latitude and 119 degrees, 26 minutes, 18 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry early June through October. Aridic moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to duripan: 14 to 20 inches.

Mineralogy: 35 to 60 percent volcanic glass, glass coats and glass aggregates in the very fine and fine sand size throughout.

Control section:

Clay content—25 to 35 percent.
 Rock fragments—15 to 35 percent, dominantly pebbles.

A horizon:

Hue—10YR or 7.5YR
 Value—5 or 6 dry, 3 or 4 moist, (after mixing 7 inches value greater than 5.5 dry)
 Chroma—2 or 3.

Bt horizons:

Hue—10YR or 7.5YR.
 Value—5 or 6 dry, 3 through 5 moist.
 Chroma—2 through 4 or 6.
 Texture—Ashy loam or ashy clay loam.
 Clay content—25 to 35 percent.
 Structure—Subangular blocky and prismatic.
 Rock fragment—15 to 35 percent mainly pebbles.

Bqm horizon:

Rupture resistance—Air dried submerged, moderately cemented or strongly cemented with discontinuous lenses that are very strongly cemented.
 Cementation—Most fragments will fail at 1 joule; very strongly cemented pieces will typically fail at 3 joules.

Hapgood series

The Hapgood series consists of deep, well drained soils that formed mainly in colluvium and residuum derived from volcanic rocks. Hapgood soils are on mountains and plateaus. Slopes are 5 to 30 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive Pachic Haplocryolls

Typical pedon: Hapgood very gravelly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted)

A1—0 to 3 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; moderate thin and medium platy structure; soft, very friable, nonsticky and slightly plastic; few fine and many very fine roots; many fine interstitial and few very fine tubular pores; 40 percent pebbles; slightly acid (pH 6.4); clear smooth boundary.

A2—3 to 8 inches; dark grayish brown (10YR 4/2) very gravelly loam, very dark brown (10YR 2/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine and medium and many very fine roots; many very fine interstitial and common very fine tubular pores; 40 percent pebbles; neutral (pH 6.6); clear smooth boundary.

A3—8 to 26 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine, and many very fine roots; many very fine interstitial, and common very fine tubular pores; 30 percent pebbles; neutral (pH 6.6); clear smooth boundary.

AC—26 to 36 inches; grayish brown (10YR 5/2) very gravelly loam, dark brown (10YR 3/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; few fine and many very fine roots; many very fine interstitial and common very fine tubular pores; 50 percent pebbles; neutral (pH 6.8); abrupt wavy boundary.

C—36 to 50 inches; very pale brown (10YR 7/3) very cobbly loam, brown (10YR 5/3) moist; many fine and medium faint brown (10YR 5/3) iron stains along vertical cleavage planes; massive; slightly hard, friable, slightly sticky and slightly plastic; few fine, and common very fine roots; common very fine tubular pores; 20 percent cobbles and 20 percent pebbles; neutral (pH 6.8); abrupt wavy boundary.

R—50 inches; hard, fractured andesite.

Type location: Washoe County, Nevada; about 60 miles west of Denio Junction; 300 feet north and 450 feet east of the southwest corner of section 10, T.46 N., R.19 E.; 41 degrees, 55 minutes, 2 seconds north latitude and 119 degrees, 50 minutes, 48 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry late July through early October; xeric moisture regime bordering on aridic.

Mean annual soil temperature: 38 to 47 degrees F.

Mean summer soil temperature: 55 to 59 degrees F.

Mollic epipedon thickness: 16 to 48 inches.

Depth to bedrock: 40 to 60 inches to a lithic contact.

Control section:

Clay content—18 to 27 percent.

Rock fragments—Average 35 to 50 percent, dominantly pebbles. Lithology of fragments is mixed.

Reaction—Slightly acid or neutral.

A horizons:

Hue—10YR or 7.5YR

Value—2 through 5 dry, 2 or 3 moist.

Chroma—1 through 3 in most pedons, chroma of 1 is common only in A1 horizon and chroma of 3 is common only in A3 horizon or below.

Base saturation—50 to 75 percent in upper part.

Other features—A4 horizons may replace AC horizon in some pedons.

C horizon:

Hue—10YR or 7.5YR.

Value—4 through 7 dry, 3 through 5 moist.

Chroma—2 through 6.

Texture—Predominantly loam, but strata of fine sandy loam, sandy loam, silt loam or clay loam are permissible.

Other features—Some pedons lack C horizons where the mollic epipedon rests on the bedrock at depths less than 48 inches.

Harskel series

The Harskel series consists of shallow to bedrock, well drained soils that formed in residuum and colluvium derived from andesitic tuff and similar volcanic rocks high in volcanic ash. Harskel soils are on plateaus. Slopes are 8 to 30 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid, shallow Vitritorrandic Argixerolls

Typical pedon: Harskel extremely cobbly ashy loam in map unit 418, rangeland (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; brown (10YR 5/3) extremely cobbly ashy loam, very dark grayish brown (10YR 3/2) moist; strong thick platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine roots; many very fine and common fine vesicular pores; 35 percent cobbles and 30 percent pebbles; slightly acid (pH 6.2); clear wavy boundary.

Bt1—3 to 8 inches; brown (7.5YR 4/3) very cobbly ashy loam, very dark brown (7.5YR 2.5/3) moist; strong fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine tubular pores; common faint and distinct clay films on faces of peds and lining pores; 25 percent

cobbles and 20 percent pebbles; slightly acid (pH 6.4); clear wavy boundary.

Bt2—8 to 19 inches; brown (7.5YR 4/3) extremely cobbly ashy loam, very dark brown (7.5YR 2.5/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine tubular pores; many faint and common distinct clay films on faces of peds and lining pores; 40 percent cobbles and 35 percent pebbles; neutral (pH 6.8); clear irregular boundary.

Cr—19 to 29 inches; soft, weathered, vesicular andesite; nearly massive; few roots and some soil in some fractures.

Type location: Lassen County, California; about 650 feet east and 1,600 feet north of the southwest corner of section 3, T. 37 N., R.17 E.; Little Hat Mountain 7.5 minute topographic quadrangle; 41 degrees, 05 minutes, 59 seconds north latitude and 120 degrees, 02 minutes, 6 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from July through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 14 to 19 inches, includes all or part of the Bt horizon.

Depth to bedrock: 14 to 20 inches to a paralithic contact. The paralithic materials below the contact are andesitic tuffs.

Volcanic glass content: 35 to 60 percent in the coarse silt through fine sand fractions.

Control section:

Clay content—18 to 27 percent.

Rock fragments—45 to 75 percent, mostly cobbles and pebbles. Lithology of fragments are volcanic rocks such as andesite, basalt and tuff.

Reaction—Slightly acid or neutral.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Structure—Angular blocky or subangular blocky.

Rock fragments—40 to 75 percent cobbles and pebbles.

Consistence—Slightly hard or hard dry.

Hart Camp Series

The Hart Camp series consists of shallow, well drained soils that formed in residuum weathered from tuff. The Hart Camp soils are on plateaus, mountains and hills. Slopes are 4 to 30 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Loamy, mixed, superactive, frigid, shallow Aridic Argixerolls

Typical pedon: Hart Camp gravelly loam, in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 2 percent stones, 5 percent cobbles, and 15 percent pebbles.

A—0 to 3 inches; brown (10YR 5/3) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate very thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine vesicular and interstitial pores; 2 percent stones, 5 percent cobbles and 15 percent pebbles; neutral (pH 7.0); clear smooth boundary.

BA—3 to 8 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine roots; many very fine tubular pores; 20 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt1—8 to 12 inches; brown (10YR 5/3) gravelly clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, very friable, sticky and plastic; many very fine and fine roots; common very fine tubular pores; 25 percent pebbles; many thin clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

Bt2—12 to 16 inches; yellowish brown (10YR 5/4) gravelly clay loam, dark yellowish brown (10YR 4/4) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; many very fine and fine roots; many very fine tubular pores; 25 percent pebbles; common thin and moderately thick clay films on faces of peds and in pores; neutral (pH 6.7); abrupt irregular boundary.

Cr—16 to 20 inches; weathered tuff; common thin and few moderately thick clay films at the upper boundary and in few places.

Type location: Washoe County, Nevada; approximately 2,000 feet north of Barrel Springs road; about 2,000 feet east and 1,300 feet south of the northwest corner of section 20, T.46 N., R.19 E.; 41 degrees, 53 minutes, 50 seconds north latitude and 119 degrees, 52 minutes, 44 seconds west longitude NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist winter and spring, dry late June through October.

Soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 7 to 15 inches, includes part or all of argillic horizon.

Profile reaction: Slightly acid to neutral.

Depth to weathered bedrock: 10 to 20 inches.

Control section:

Clay content—Averages 18 to 35 percent.

Rock fragments—Averages 15 to 35 percent.

A horizon:

Value—4 through 6 dry, 2 or 3 moist. When the surface 7 inches are mixed, its value is less than 5.5.

Chroma—2 or 3.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4.

Texture—Gravelly sandy clay loam, gravelly clay loam, gravelly loam.

Clay content—20 to 35 percent. Subhorizons of clay occur in some pedons.

Rock fragments—Averages 15 to 35 percent.

Structure—Weak to strong, fine to coarse subangular or angular blocky or has moderate or strong, fine or medium prismatic in some pedons.

Hartig series

The Hartig series consists of deep, well drained soils that formed in colluvium and residuum derived from volcanic rocks. Hartig soils are on plateaus. Slopes are 30 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Aridic Haploxerolls

Typical pedon: Hartig gravelly loam Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 10 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak very thin and thin platy structure; soft, very friable, nonsticky and nonplastic; many fine roots; many fine and very fine interstitial pores; 15 percent pebbles; slightly acid (pH 6.4); abrupt smooth boundary.

Bw—10 to 21 inches; light brownish gray (10YR 6/2) very gravelly loam, dark brown (10YR 3/3) moist; weak medium subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many fine roots; common very fine tubular pores; 40 percent fine pebbles; neutral (pH 6.8); gradual smooth boundary.

C—21 to 42 inches; light yellowish brown (10YR 6/4) very gravelly loam, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; common fine roots; many very fine interstitial pores; 50 percent pebbles, 5 percent cobbles; neutral (pH 7.0).

R—42 inches; unweathered bedrock.

Type location: Washoe County, Nevada; approximately 1,000 feet southeast of the northwest corner of section 9, T.46 N., R.19 E.; USGS Little Coleman Canyon 7.5 minute topographic quadrangle; 41 degrees, 55 minutes, 42 seconds north latitude and 119 degrees, 51 minutes, 52 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry from June through mid-October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 10 to 20 inches.

Depth to bedrock: 40 to 60 inches to a lithic contact.

Particle-size control section:

Clay content—Averages 12 to 18 percent.

Rock fragments—35 to 60 percent, mainly gravel.

Lithology of fragments are volcanic rocks such as basalt or andesite.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry.

Chroma—2 or 3 moist.

Structure—Weak or moderate very thin to medium platy or granular.

Consistence—Soft or slightly hard, dry.

Reaction—Slightly acid or neutral.

Organic matter content—1 to 4 percent.

Bw horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Texture—Very gravelly loam or very gravelly sandy loam.

Clay content—12 to 20 percent.

Rock fragments—35 to 60 percent gravel, 0 to 5 percent cobbles.

Structure—Weak to moderate, fine to coarse subangular blocky.

Consistence—Soft to slightly hard, dry.

Reaction—Slightly acid or neutral.

C horizon:

Hue—10YR or 7.5YR.

Value—6 or 7 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Texture—Very gravelly loam or very gravelly sandy loam.

Clay content—10 to 18 percent.

Rock fragments—35 to 60 percent gravel, 0 to 5 percent cobbles.

Structure—Subangular blocky or massive.

Consistence—Very friable and friable, moist.

Hartner series

The Hartner series consists of very shallow, well drained soils that formed in volcanic ash and residuum and colluvium from andesite, andesitic tuff or tuff-breccia. Hartner soils are on backslopes of mountains. Slopes are 4 to 75 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Ashy, glassy, nonacid, frigid, shallow Vitrandic Torriorthents

Typical pedon: Hartner very gravelly ashy sandy loam in an area of map unit 424, rangeland (Colors are for dry soil unless otherwise noted.)

A—0 to 1 inches; brown (10YR 5/3) very gravelly ashy sandy loam, brown (10YR 4/3) moist; weak thin platy structure; soft, very friable, nonsticky, nonplastic; few very fine roots; many very fine interstitial pores; 40 percent pebbles; neutral, (pH 7.0); clear smooth boundary.

C—1 to 4 inches; grayish brown (10YR 5/2) gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, nonsticky, nonplastic; common very fine roots; many very fine interstitial pores; 10 percent paragravel and 25 percent pebbles; neutral, (pH 7.0); clear wavy boundary.

Cr—4 to 14 inches; weathered and fractured tuff-breccia;

Type location: Modoc County California on the Modoc National Forest; 150 feet north and 2,100 feet east of the southwest corner of section 30, T.42 N, R.16 E; Cedarville 7.5 minute topographic quadrangle; 41 degrees, 28 minutes, 19 seconds north latitude and 120 degrees, 11 minutes, 29.9 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter and spring, dry in summer and fall; aridic bordering on xeric moisture regime.

Mean annual soil temperature: 43 to 47 degrees F.

Depth to bedrock: 4 to 10 inches.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Profile reaction: Slightly acid or neutral.

Control section:

Clay content—10 to 18 percent.

Rock fragments—15 to 35 percent rock fragments; mainly pebbles. Lithology of fragments is volcanic rocks such as andesitic tuff, andesite and tuff-breccia.

A horizon:

Hue—10YR or 7.5 YR

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 2 percent.

C horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist; darker colors are a result of lithochromic influence, not organic matter.

Structure—Massive or subangular blocky.

Rock fragments—15 to 35 percent, mainly pebbles with half the total volume being less than 20mm in size.

paragravel and paracobbles that break down to fine pebbles are common, ranging up to 50 percent.

Organic matter content—0.5 to 0.75 percent.

Hashwoods series

The Hashwoods series consists of deep to soft bedrock, well drained soils that formed in volcanic ash and colluvium derived from andesite over residuum from tuff or tuff breccia. Hashwoods soils are on plateaus. Slopes are 4 to 15 percent. The mean annual precipitation is about 15 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy, glassy Vitrandic Argicryolls

Typical pedon: Hashwoods ashy fine sandy loam in an area of map unit 565, aspen woodland (Colors are for dry soil unless otherwise noted.)

A1—0 to 5 inches; dark brown (10YR 3/3) ashy fine sandy loam, black (10YR 2/1) moist; weak very fine subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; many very fine to very coarse roots; many very fine interstitial pores; 5 percent fine gravel and 5 percent gravel; neutral, pH 6.8; abrupt wavy boundary.

A2—5 to 15 inches; dark grayish brown (10YR 4/2) ashy fine sandy loam, black (10YR 2/1) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, nonsticky, nonplastic; many very fine to very coarse roots throughout; many very fine interstitial pores; 5 percent fine gravel and 5 percent gravel; neutral, pH 6.6; clear wavy boundary.

A3—15 to 31 inches; dark grayish brown (10YR 4/2) very cobbly ashy fine sandy loam, very dark brown (10YR 2/2) moist; weak coarse subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine to very coarse roots throughout; many very fine interstitial pores; 5 percent fine gravel and 15 percent gravel, 15 percent cobbles, 10 percent stones; neutral, pH 6.6; clear wavy boundary.

2Bt—31 to 48 inches; pale brown (10YR 6/3) very paragravelly ashy loam, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; many very fine and common fine and medium roots throughout; many very fine and fine tubular pores; 2 percent faint clay films on surfaces along pores and 20 percent faint clay bridging between sand grains; 5 percent fine tuff paragravel and 25 percent tuff paragravel, 5 percent andesite cobbles; slightly acid, pH 6.4; clear wavy boundary.

2Cr—48 to 59 inches; soft pyroclastic andesitic tuff high in volcanic glass.

Type location: Washoe County, Nevada; in the Hays Canyon Range; about 1.5 miles south of Devine

Spring; unsectionized, T.39 N., R.19 E.; USGS Boulder Mountain 7.5 minute topographic quadrangle; 41 degrees, 18 minutes, 30.8 seconds north latitude and 119 degrees, 51 minutes, 16.8 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in late summer and fall; completely dry for at least 45 consecutive days between July and October; xeric moisture regime that borders on aridic.

Mean annual soil temperature: 44 to 47 degrees F.

Mean summer soil temperature: 54 to 59 degrees F.

Mollic epipedon thickness: 30 to 35 inches.

Depth to bedrock: 40 to 60 inches to a paralithic contact.

The paralithic materials below the contact are vitric pyroclastic tuffs.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Control section:

Clay content—12 to 18 percent.

Rock fragments—30 to 40 percent paragravel and 5 to 15 percent hard volcanic rocks.

A horizon:

Value—3 or 4, dry.

Chroma—2 or 3, dry, 1 or 2 moist.

Reaction—Slightly acid or neutral.

Bt horizon:

Value—5 or 6, dry.

Chroma—2 or 3, dry or moist.

Structure—Angular blocky or subangular blocky.

Consistence—Slightly hard or hard dry.

Home Camp series

The Home Camp series consists of moderately deep well drained soils that formed in residuum and colluvium derived from volcanic rocks. The Home Camp soils are on mountain and plateau side slopes. Slopes are 4 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey-skeletal, smectitic, frigid Vitrandic Argixerolls

Typical pedon: Home Camp stony loam located in map unit 425, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; grayish brown (10YR 5/2) stony loam, very dark brown (10YR 2/2) moist; moderate fine and medium granular structure; slightly hard, friable, slightly sticky, slightly plastic; many very fine and fine roots; many very fine and fine interstitial, and few very fine tubular pores; 10 percent pebbles, 5 percent cobbles, and 5 percent stones; slightly acid (pH 6.4); abrupt smooth boundary.

A2—2 to 8 inches; grayish brown (10YR 5/2) very gravelly loam, very dark brown (10YR 2/2) moist; moderate fine and medium granular structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine and fine interstitial, and few very fine tubular pores; 35 percent pebbles and 10 percent cobbles; slightly acid (pH 6.5); abrupt smooth boundary.

BA_t—8 to 14 inches; brown (10YR 5/3) very gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, friable, sticky and plastic; common very fine and fine roots; many very fine and fine interstitial pores; few thin clay films on faces of peds; 25 percent pebbles and 10 percent cobbles; slightly acid (pH 6.5) abrupt smooth boundary.

Bt₁—14 to 18 inches; brown (10YR 5/3) very gravelly sandy clay loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium subangular blocky structure; very hard, friable, sticky and plastic; few very fine and fine roots; common very fine and fine interstitial pores; common thin and very few moderately thick clay films on faces of peds and continuous thin clay films in pores; 25 percent pebbles and 10 percent cobbles; slightly acid (pH 6.5); abrupt wavy boundary.

Bt₂—18 to 27 inches; pale brown (10YR 6/3) very gravelly clay, brown (7.5YR 4/4) moist; weak fine and medium prismatic and strong very fine and fine angular blocky structure; very hard, firm, very sticky, very plastic; few very fine and fine roots; common very fine and fine interstitial pores; continuous moderately thick brown (7.5YR 4/2) and yellowish brown (10YR 5/4) clay films on faces of peds and common moderately thick and thick clay films in pores; 25 percent pebbles and 10 percent cobbles; neutral (pH 6.6); abrupt wavy boundary.

Bt₃—27 to 36 inches; very pale brown (10YR 7/3) very gravelly sandy clay loam, yellowish brown (10YR 5/4) moist; moderate fine subangular blocky structure; hard, friable, sticky and plastic; few very fine and fine roots; common very fine and fine interstitial pores; few moderately thick and common thin brown (7.5YR 4/2) clay films on faces of peds; 35 percent pebbles and 15 percent cobbles; neutral (pH 7.0); diffuse smooth boundary.

Cr—36 to 40 inches; tuff bedrock.

Type location: Washoe County, Nevada; 1.25 miles south of Buckhorn Road, about 400 feet south and 2,600 feet west of the northwest corner of section 5, T.34 N., R.18 E., Mount Diablo base line and meridian. 40 degrees, 51 minutes, 24 seconds north latitude and 119 degrees, 59 minutes, 28 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist winter and spring and early summer, dry late summer and fall. Xeric moisture regime.

Mean annual soil temperature: 42 to 45 degrees F.

Mollic epipedon thickness: 9 to 16 inches.

Depth to soft bedrock: 20 to 40 inches.

Profile reaction: Slightly acid or neutral

Other features: Noncalcareous throughout.

Control section:

Clay content—35 to 50 percent when averaged.

Rock fragments—35 to 50 percent pebbles, cobbles and stones.

A horizon:

Hue—10YR or 7.5YR

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Structure—Platy, granular, subangular blocky or is massive.

Consistence—Soft or slightly hard.

Volcanic ash—Glass content is 5 to 15 percent in the 0.2 to 2.0 millimeter fraction; product of $(A1 + 1/2 Fe \times 60)$ plus glass is greater than 30.

BA_t and B_t1 horizons:

Hue—10YR or 7.5YR

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 through 4

Texture—Sandy clay loam or clay loam

Clay content—25 to 35 percent

Rock fragments—35 to 60 pebbles, cobbles, or stones

Structure—Subangular blocky or angular blocky.

Volcanic ash—Glass content is 5 to 15 percent in the 0.2 to 2.0 millimeter fraction; product of $(A1 + 1/2 Fe \times 60)$ plus glass is greater than 30.

Reaction—Slightly acid or neutral

B_t2 horizon:

Hue—10YR or 7.5YR

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4

Texture—Clay or sandy clay

Rock fragments—35 to 50 percent

Clay content—40 to 50 percent

Structure—Subangular blocky, angular blocky or prismatic.

Hovey series

The Hovey series very deep, poorly drained soils that formed in mixed alluvium and lacustrine sediments. Hovey soils are on lake terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 12 inches. Mean annual temperature is about 44 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aquic Haplocalcids

Typical pedon: Hovey silty clay loam in an area of map unit 426, meadow. (Colors are for dry soil unless otherwise noted.)

A1—0 to 5 inches; gray (10YR 5/1) silty clay loam, very dark gray (10YR 3/1) moist; weak medium granular structure; slightly hard, friable, sticky, plastic; many fine roots; common very fine and fine pores; weakly effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

A2—5 to 10 inches; gray (10YR 6/1) silty clay loam, very dark gray (10YR 3/1) moist; moderate medium granular structure; slightly hard, friable, slightly sticky, plastic; common fine roots; many very fine and fine pores; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Bk—10 to 32 inches; light gray (10YR 7/2) silty clay loam, grayish brown (2.5Y 5/2) moist; common medium faint dark grayish brown (2.5Y 4/2) mottles; massive; slightly hard, friable, slightly sticky, plastic; few fine roots; many very fine and fine pores; strongly effervescent; strongly alkaline (pH 8.5); gradual smooth boundary.

C1—32 to 48 inches; light brownish gray (10YR 6/2) silty clay loam, grayish brown (10YR 5/2) moist; common fine distinct gray (10YR 5/1) and light gray (10YR 7/1) mottles; massive; slightly hard, friable, sticky, plastic; few fine roots; many very fine and fine pores; strongly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

C2—48 to 72 inches; light brownish gray (10YR 6/2) silty clay loam, grayish brown (2.5Y 5/2) moist; common medium and fine distinct light gray (10YR 7/1), dark gray (10YR 4/1), dark brown (10YR 3/3), and olive (5Y 4/3) mottles; massive; hard, friable, sticky, plastic; few fine roots; few very fine pores; slightly

effervescent except in lime masses which are violently effervescent; moderately alkaline (pH 8.4).

Type location: Modoc County, California, about 3 miles southeast of Fort Bidwell and 350 feet south and 1,440 feet east of the northwest corner sec. 23, T.46 N., R.16 E.; Mount Diablo base line and meridian; 41 degrees, 50 minutes, 52.9 seconds north latitude and 120 degrees, 06 minutes, 26.7 seconds west longitude, NAD27; Larkspur Hills quadrangle.

Range in Characteristics:

Soil moisture: Saturated with water for 1 or more months during most years.

Control section:

Clay content—Averages 24 to 35 percent.

Effervescence—Slight to violent.

Reaction—Moderately alkaline to strongly alkaline, decreasing with depth.

A horizons:

Hue—10YR or 2.5Y.

Value—5 or 6 dry, 3 or 4 moist. Color value is not darker than 5.5 dry and 3.5 moist after the surface 7 inches are mixed

Structure—Weak or moderate, fine or medium granular or subangular blocky structure or it is massive.

Consistence—Soft to hard, dry.

Bk horizon:

Hue—10YR or 2.5Y.

Value—7 or 8 dry, 4 through 6 moist.

Chroma—1 or 2.

Texture—Average silty clay loam or heavy silt loam containing more than 15 percent fine or coarser sand. Thin strata of loam, fine sandy loam or clay loam are common.

Redoximorphic features—Few or common, faint or distinct iron concentrations of 2 through 4 chroma.

C horizons:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 3 or 4 moist.

Redoximorphic features—Few to many, faint to prominent iron concentrations or depletions of yellowish hue and low or high chroma.

Hussa series

The Hussa series consists of very deep, very poorly and poorly drained soils that formed in alluvium from mixed

rock sources with a component of vitric pyroclastic materials. Hussa soils are on lake terraces. Slopes are 0 to 9 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy, glassy, calcareous, frigid Aquandic Endoaquolls

Typical pedon: Hussa ashy clay loam in an area of map unit 427, native meadow. (Colors are for moist soil unless otherwise noted.)

A1—0 to 2 inches; very dark gray (10YR 3/1) ashy clay loam, gray (10YR 5/1) dry; moderate fine and medium subangular blocky structure; very hard, friable, slightly sticky and plastic; many fine and medium roots; many very fine interstitial pores; violently effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

A2—2 to 12 inches; black (10YR 2/1) ashy loam, dark gray (10YR 4/1) dry; strong medium and fine granular structure; hard, friable, slightly sticky and slightly plastic; many fine and medium roots; many very fine interstitial pores; violently effervescent; strongly alkaline (pH 8.6); diffuse smooth boundary.

A3—12 to 20 inches; very dark gray (10YR 3/1) ashy clay loam, gray (10YR 5/1) dry; moderate medium and coarse subangular blocky structure; hard, friable, sticky and plastic; many fine roots; many very fine and fine tubular and interstitial pores; common fine distinct very pale brown (10YR 8/2) lime segregations; violently effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

A4—20 to 23 inches; black (10YR 2/1) ashy clay loam, dark gray (10YR 4/1) dry; moderate medium and coarse subangular blocky structure; hard, friable, sticky and plastic; few fine roots; many very fine and fine interstitial pores; weakly effervescent; common fine distinct very pale brown (10YR 8/2) lime segregations; moderately alkaline (pH 8.0); clear smooth boundary.

C—23 to 30 inches; dark grayish brown (10YR 4/2) ashy sandy clay loam, light brownish gray (2.5Y 6/2) dry; massive; slightly hard, friable, sticky and plastic; few fine roots; many very fine tubular pores; common coarse distinct black (10YR 2/1) organic stains and common fine distinct very pale brown (10YR 8/2) lime segregations; strongly effervescent; moderately alkaline (pH 8.0); clear wavy boundary. (13 to 50 centimeters thick)

Ab—30 to 36 inches; black (10YR 2/1) ashy clay loam, very dark gray (10YR 3/1) dry; massive; hard, friable, sticky and plastic; few fine roots; many very fine

tubular pores; weakly effervescent; moderately alkaline (pH 8.0); diffuse smooth boundary.

C—36 to 60 inches; grayish brown (2.5Y 5/2) ashy silty clay loam, pale brown (10YR 6/3) dry; few fine distinct yellowish brown (10YR 5/4) mottles; massive; hard, friable, sticky and plastic; few fine roots; common very fine tubular pores; common fine distinct dark gray (10YR 4/1) organic stains, and common fine distinct very pale brown (10YR 8/2) lime segregations; violently effervescent; moderately alkaline (pH 8.0).

Type location: Modoc County, California; approximately 2,000 feet east and 250 feet north of the southwest corner of section 10, T.42 N., R.16 E; 41 degrees, 30 minutes, 56.2 seconds north latitude and 120 degrees, 08 minutes, 09.5 seconds west longitude, NAD27; Cedarville quadrangle.

Range in Characteristics:

Soil moisture: These soils are saturated at or near the surface for at least one month during most years.

Drained phases are recognized.

Soil temperature: 6.5 to 8.0 degrees C. (44 to 47 degrees F.).

Mollic epipedon thickness: 30 to 61 centimeters (12 to 24 inches).

Volcanic glass content: 30 to 50 percent glass and glass aggregates in the coarse silt to sand fraction.

Profile reaction: Moderately alkaline to strongly alkaline.

Carbonates: Few or common fine or medium white lime segregations can occur in any horizon but are not common in horizons above the water table.

Effervescence: Effervescent in the upper 50 to 76 centimeters (20 to 30 inches) but may be non-effervescent below this depth in some pedons.

Other features: A root mat (Oe horizon), up to 10 centimeters (4 inches) thick is present in some areas that have not been cultivated.

Control section:

Clay content—25 to 35 percent.

Texture—Stratified ashy sandy clay loam to ashy silty clay loam. Some pedons have thin strata of ashy loam, ashy fine sandy loam, and ashy sandy loam.

Rock fragments—0 to 15 percent. Some pedons have thin horizons with up to 35 percent pebbles.

A horizon:

Hue—10YR or 2.5Y.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 or 2.

Structure—Weak to strong, fine to thick platy, subangular blocky, granular or it is massive.

Consistence—Slightly hard to very hard, but not both massive and hard when dry.

Other features—One to several buried A horizons occur throughout the profile.

C horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, and 3 through 5 moist.

Chroma—1 through 3.

Texture—Stratified ashy sandy clay loam to ashy silty clay loam. Some pedons have thin strata of ashy loam, ashy fine sandy loam, and ashy sandy loam.

Rock fragments—0 to 15 percent. Some pedons have thin horizons with up to 35 percent pebbles.

Structure—Subangular blocky or it is massive.

Clay content—Averages 25 to 35 percent.

Other features—This horizon contains faint to prominent iron, manganese or organic matter stains.

Hutchley series

The Hutchley series consists of shallow, well drained, moderately slowly permeable soils that are formed in residuum and colluvium from volcanic rocks. They are on mountains and plateaus. Slopes are 2 to 50 percent. The mean annual temperature is 43 degrees F, and the mean annual precipitation is 14 inches.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls

Typical pedon: Hutchley very stony sandy loam in an area of Susanville Area, Parts of Lassen and Plumas Counties, CA, rangeland (Colors are for air-dry soil unless otherwise stated.) Surface area is covered by 15 percent stones, 10 percent cobbles, and 40 percent gravel.

A—0 to 9 inches; grayish brown (10YR 5/2) very stony sandy loam, very dark grayish brown (10YR 3/2) moist; strong very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine pores; many thin clay films on faces of peds; 10 percent stones; 10 percent cobbles; 20 percent gravel; neutral (pH 6.6); abrupt irregular boundary.

Bt—9 to 14 inches; yellowish brown (10YR 5/4) very

gravelly clay loam, dark yellowish brown (10YR 3/4) moist; strong very fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine and fine tubular pores; many thin clay films on faces of peds; 40 percent gravel; 10 percent cobbles; neutral (pH 6.6); abrupt irregular boundary.

R—14 to 18 inches; fractured basalt with soil and roots in fractures.

Type location: About 2,000 feet east and 2,100 feet south of the northwest corner of section 7, T.25 N., R.18 E.; 40 degrees, 02 minutes, 50 seconds north latitude and 120 degrees, 00 minutes, 30 seconds west longitude, NAD27

Range in Characteristics:

Average annual soil temperature: 41 to 47 degrees F.

Thickness of mollic epipedon: 10 to 20 inches.

Depth to bedrock: 10 to 20 inches.

Control section:

Clay content—24 to 35 percent.

Rock fragments—35 to 70 percent.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry or moist.

Reaction—Slightly acid to slightly alkaline.

Bt horizon:

Value—4 or 5 dry, 3 or 4 moist.

Chroma—2 to 4 dry or moist.

Clay content—28 to 35 percent.

Rock fragments—30 to 40 percent gravel, 5 to 35 percent cobbles, 0 to 10 percent stones.

Texture—Very cobbly clay loam, very gravelly clay loam, very cobbly sandy clay loam.

Reaction—Neutral to slightly alkaline

Indian Creek series

The Indian Creek series consists of shallow to a duripan, well drained soils that formed in alluvium derived from mixed igneous rocks. Indian Creek soils are on fan remnants. Slopes are 4 to 15 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 49 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Xeric Argidurids

Typical pedon: Indian Creek very cobbly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 20 percent cobbles and 15 percent pebbles.

A1—0 to 2 inches; pale brown (10YR 6/3) very cobbly loam, dark brown (10YR 3/3) moist; moderate thin platy structure; slightly hard, very friable, sticky and plastic; many very fine roots; common fine and very fine vesicular pores; few uncoated sand grains; 20 percent cobbles and 15 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

A2—2 to 5 inches; pale brown (10YR 6/3) gravelly loam, dark brown (10YR 3/3) moist; moderate very fine subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine, common fine, and few medium roots; many fine and very fine interstitial pores; many uncoated sand grains; 25 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt1—5 to 10 inches; yellowish brown (10YR 5/4) gravelly clay loam, dark brown (7.5YR 3/4) moist; strong fine and medium subangular blocky structure; hard, very friable, very sticky and very plastic; many very fine, common fine, and few medium roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 25 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—10 to 18 inches; strong brown (7.5YR 5/6) gravelly clay, brown (7.5YR 4/4) moist; strong fine and medium angular blocky structure; hard, very friable, very sticky and very plastic; common very fine and few fine and medium roots; few very fine tubular pores; many moderately thick clay films on faces of peds and in pores; 20 percent pebbles; moderately alkaline (pH 7.4); abrupt wavy boundary.

Bqkm—18 to 25 inches; very pale brown (10YR 8/2) indurated duripan, light yellowish brown (10YR 6/4) moist; strong thick and very thick platy structure; extremely hard, extremely firm and very firm; few very fine and fine roots in horizontal root mat at upper boundary and between some plates; 70 percent cemented pebbles; continuous 1 to 2 millimeter thick horizontal silica laminae; many moderately thick and thick silica coats; strongly effervescent between plates and surface of plates; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Ck1—25 to 36 inches; light gray (10YR 7/2) extremely gravelly loamy coarse sand, dark grayish brown (10YR 4/2) moist; massive; hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many fine interstitial pores; 60 percent pebbles;

common fine and medium lime coats on underside of pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

3Ck2—36 to 60 inches; light brownish gray (10YR 6/2) very gravelly loamy coarse sand, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable; few very fine roots; many fine interstitial pores; 50 percent pebbles; common fine and medium lime coats on underside of pebbles; slightly alkaline (pH 7.4).

Type location: Washoe County, Nevada; about 500 feet west and 100 feet north of the southeast corner of section 21, T.43 N., R.18 E.; 41 degrees, 37 minutes, 33 seconds north latitude and 119 degrees, 57 minutes, 55 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist during winter and spring; dry in summer and fall; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 50 to 53 degrees F.

Depth to base of argillic horizon: 14 to 20 inches.

Depth to duripan: 14 to 20 inches.

Particle-size control section:

Clay content—35 to 55 percent.

Rock fragments—5 to 30 percent, mainly gravel.

Lithology of fragments are igneous rocks such as basalt and granodiorite.

A horizons:

Value—5 or 6 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly acid or neutral.

Other features—There is commonly a desert pavement of pebbles, cobbles, and stones lightly coated with a patina of mineral varnish on the soil surface.

Bt horizons:

Hue—10YR through 5YR.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—4 through 6, dry or moist.

Texture—Clay, sandy clay, gravelly clay loam, or gravelly clay.

Clay content—35 to 55 percent.

Rock fragments—5 to 30 percent, mainly pebbles.

Reaction—Slightly acid through slightly alkaline.

2Bqkm horizon:

Other features—Continuous indurated cap or plates with strong silica cementation below.

2Cqk and 2C horizons:

Texture—Stratified extremely gravelly loamy coarse sand to gravelly sandy clay loam.

Rock fragments—25 to 60 percent pebbles, 0 to 15 percent cobbles, 0 to 5 percent stones.

Reaction—Neutral through strongly alkaline.

Identifiable secondary carbonates—Occur as filaments, masses, or coats on bottoms of rock fragments.

Calcium carbonate equivalent—0 to 5 percent.

Isolde series

The Isolde series consists of very deep, excessively drained soils that formed in eolian sand derived from mixed rocks. Isolde soils are on dunes. Slopes are 2 to 15 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 52 degrees F.

Taxonomic class: Mixed, mesic Typic Torripsamments

Typical pedon: Isolde fine sand in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 7 inches; light gray (10YR 7/2) fine sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; many very fine roots; many very fine and fine interstitial pores; moderately alkaline (pH 8.4); clear wavy boundary.

C1—7 to 24 inches; light gray (10YR 7/2) fine sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine and fine interstitial pores; moderately alkaline (pH 8.4); clear smooth boundary.

C2—24 to 42 inches; light gray (10YR 7/2) fine sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; many very fine and fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

C3—42 to 55 inches; light gray (10YR 7/2) fine sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; many very fine and fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

Ck—5 to 62 inches; light gray (10YR 7/2) fine sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few

fine and medium roots; many very fine and fine interstitial pores; few fine soft masses of lime; strongly effervescent; moderately alkaline (pH 8.4).

Type location: Washoe County, Nevada; 1,200 feet west and 1,600 feet south of the northeast corner of section 17, T.41 N., R.18 E.; (41 degrees, 28 minutes, 36 seconds north latitude and 119 degrees, 59 minutes, 24 seconds west longitude, NAD27.)

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and spring, dry from summer to mid-fall; typical torric moisture regime.

Soil temperature: 53 to 57 degrees F.

Control section:

Texture—Fine sand or sand, with 50 to 80 percent passing the number 40 sieve and 0 to 10 percent passing the number 200 sieve. No rock fragments are present.

Reaction—Neutral to moderately alkaline.

Carbonate effervescence—Noneffervescent to slightly effervescent.

A horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 or 3.

Salinity (EC)—0 to 8 mmhos/cm.

Sodicity (SAR)—0 to 12.

C horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3.

Salinity (EC)—0 to 4 mmhos/cm.

Sodicity (SAR)—0 to 12.

Other features—Some pedons have a lithologic discontinuity (2C horizon) below 40 inches. In some pedons the lower C horizon is strongly alkaline, strongly effervescent, and contains up to 10 percent calcium carbonate equivalent.

Jaybee series

The Jaybee series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium from basic volcanic rocks primarily from basalt. Jaybee soils are plateaus. Slopes are 2 to 8 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Loamy, mixed, superactive, mesic Lithic Xeric Haplargids

Typical pedon: Jaybee very cobbly sandy loam in an area of Washoe County, NV, Cental Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with 20 percent pebbles and 20 percent cobbles.

A1—0 to 4 inches; pale brown (10YR 6/3) very cobbly sandy loam, dark grayish brown (10YR 4/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and nonplastic; few very fine roots; few very fine tubular and common very fine vesicular pores; 15 percent pebbles and 20 percent cobbles; slightly alkaline (pH 7.4); clear smooth boundary.

A2—4 to 8 inches; brown (10YR 5/3) gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine tubular and common very fine interstitial pores; 25 percent pebbles; neutral (pH 7.2); clear smooth boundary.

Bt—8 to 14 inches; brown (10YR 5/3) gravelly clay, dark yellowish brown (10YR 4/4) moist; weak medium prismatic structure parting to fine subangular blocky; hard; very friable, moderately sticky and moderately plastic; few very fine, common medium, and common coarse roots; common very fine tubular pores; common distinct clay films on faces of peds and lining pores; 20 percent pebbles and 5 percent cobbles; neutral (pH 6.8); abrupt irregular boundary.

R—14 inches; fractured, unweathered basalt.

Type location: Washoe County, Nevada; west of the Smoke Creek Desert and about 2 miles northeast of Burro Mountain; about 1,100 feet south and 400 feet east of the northwest corner of section 16, T.31 N., R.19 E.; USGS Salt Marsh 7.5 minute topographic quadrangle; 40 degrees, 33 minutes, 58 seconds north latitude and 119 degrees, 51 minutes, 33 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist during winter and spring, dry during summer and fall; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 54 to 57 degrees F.

Depth to bedrock: 7 to 14 inches to a lithic contact.

Particle-size control section:

Clay content—Averages 25 to 35 percent.

Rock fragments—Averages 15 to 35 percent, mainly pebbles. Lithology of fragments are volcanic rocks such as basalt.

A horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist; The upper 7 inches after mixing has value of 6 dry or 4 moist.

Chroma—2 through 4, dry or moist.

Clay content—15 to 25 percent.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Gravelly clay or gravelly clay loam.

Clay content—35 to 45 percent.

Rock fragments—15 to 35 percent.

Reaction—Neutral or slightly alkaline.

Jesayno series

The Jesayno series consists of very deep, well drained soils that formed in volcanic ash and alluvium derived from volcanic and sedimentary rocks over lacustrine deposits. Jesayno soils are on inset fans. Slopes are 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitrixerandic Haplocambids

Typical pedon: Jesayno ashy silt loam, in an area of map unit 349, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; pale brown (10YR 6/3) ashy silt loam, brown (10YR 4/3) moist; moderate thin and medium platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and common fine roots; many very fine and common fine vesicular and interstitial pores; moderately alkaline (pH 8.2); clear wavy boundary.

A2—3 to 12 inches; light brownish gray (10YR 6/2) ashy silt loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and common fine roots; many fine tubular pores; moderately alkaline (pH 8.4); clear wavy boundary.

Bw1—12 to 18 inches; pale brown (10YR 6/3) ashy silt loam, brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine tubular pores; moderately alkaline (pH 8.4); clear wavy boundary.

Bw2—18 to 24 inches; pale brown (10YR 6/3) ashy silt loam, brown (10YR 4/3) moist; weak medium and coarse subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine tubular pores; moderately alkaline (pH 8.4); clear wavy boundary.

Bq—24 to 41 inches; pale brown (10YR 6/3) ashy silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine tubular pores; 15 percent 10 to 25 millimeter weak durinodes; moderately alkaline (pH 8.4); clear wavy boundary.

Bk1—41 to 52 inches; very pale brown (10YR 7/3) ashy silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; few fine light gray (10YR 7/2) soft lime masses; slightly effervescent; moderately alkaline (pH 8.4).

Bk2—52 to 62 inches; very pale brown (10YR 7/3) ashy silt loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; few fine light gray (10YR 7/2) soft lime masses; strongly effervescent; strongly alkaline (pH 8.6).

Type location: Washoe County, Nevada; on the southeast side of Duck Flat; about 1,400 feet east and 2,600 feet south of the northwest corner of section 32, T.36 N., R.20 E.; 40 degrees, 57 minutes, 20 seconds north latitude and 119 degrees, 45 minutes, 58 seconds west longitude; NAD27; Rye Patch Canyon 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry June through October. Aridic bordering xeric soil moisture regime.

Soil temperature: 47 to 50 degrees F.

Thickness of A and Bw horizons: 10 to 30 inches.

Control section:

Clay content—18 to 27 percent.

Mineralogy—40 to 60 percent volcanic glass in the 0.02 to 2.0 millimeter fraction.

A horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 3 or 4 moist.

Chroma—2 or 3.

Structure—Weak to strong very thin through medium platy in the upper part, platy or blocky in the lower part.

Consistence—Soft or slightly hard, dry.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Non-effervescent or slightly effervescent.

Bw horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 3 or 4 moist.

Chroma—2 or 3.

Structure—Weak or moderate very fine to coarse subangular blocky.

Effervescence—Non-effervescent or slightly effervescent.

Reaction—Slightly alkaline or moderately alkaline.

Texture—Ashy silt loam; thin strata of ashy very fine sandy loam are in some pedons.

Bq horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 3 or 4 moist.

Chroma—2 through 4.

Consistence—Slightly hard or hard, very friable or friable.

Reaction—Slightly alkaline or moderately alkaline.

Durinodes—2 to 20 percent durinodes in a very friable or friable matrix.

Carbonates—None to few very fine soft lime masses or filaments and threads.

Bk horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 3 or 4 moist.

Chroma—2 through 4.

Structure—Subangular blocky or it is massive.

Reaction—Moderately alkaline through very strongly alkaline.

Effervescence—Slightly effervescent to violently effervescent.

Carbonates—Few to common soft lime masses or filaments and threads.

Karlo series

The Karlo series consists of moderately deep, well drained soils that formed in residuum from volcanic rocks. Karlo soils are on plateaus. Slopes range from 2 to 8 percent. The mean annual precipitation is about 11 inches and the mean annual air temperature is about 44 degrees F.

Taxonomic class: Very-fine, smectitic, frigid Leptic Haploxererts

Typical pedon: Karlo cobbly clay in an area of map unit 476, rangeland (Colors are for dry soil unless otherwise noted).

A1—0 to 2 inches; dark reddish brown (5YR 3/3) cobbly clay, dark brown (7.5YR 3/2) moist; strong very fine and fine granular structure; hard, very friable, very sticky and very plastic; common very fine and fine roots; many very fine interstitial pores; 25 percent cobbles; neutral (pH 7.0); abrupt smooth boundary.

A2—2 to 5 inches; dark reddish brown (5YR 3/3) silty clay, dark brown (7.5YR 3/2) moist; moderate fine angular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine and fine interstitial pores; continuous colloidal coatings on faces of peds; neutral (pH 7.2); clear smooth boundary.

A3—5 to 10 inches; dark reddish brown (5YR 3/3) clay, dark brown (7.5YR 3/2) moist; weak coarse prismatic structure; very hard, friable, moderately sticky and very plastic; common very fine and fine roots; many very fine interstitial pores; continuous pressure cutans; slightly alkaline (pH 7.4); clear smooth boundary.

Bwss—10 to 25 inches; dark reddish brown (5YR 3/3) clay, dark reddish brown (5YR 3/3) moist; weak coarse prismatic structure parting to strong fine and medium angular blocky structure; very hard, firm, moderately sticky and very plastic; few very fine and very few medium roots; common very fine interstitial pores; continuous pressure cutans and many intersecting slickensides; moderately alkaline (pH 8.0); clear smooth boundary.

Bkss—25 to 40 inches; reddish brown (5YR 4/3) silty clay, dark brown (7.5YR 3/4) moist; strong fine and medium blocky structure; hard, friable, moderately sticky and moderately plastic; very fine tubular pores; common pressure cutans, many slickensides; few medium white lime masses; moderately alkaline (pH 8.2); abrupt smooth boundary.

R—40 inches; basalt bedrock; strong brown (7.5YR 5/6) decomposed rock materials in fractures; thin continuous white lime on coats on fractured faces.

Type location: Washoe County, Nevada; 1,000 feet north and 1,000 feet east of the southwest corner of sec. 36, T.35 N., R.18 E.; 40 degrees, 51 minutes, 39 seconds north latitude and 119 degrees, 54 minutes, 52 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry early June through October. Aridic moisture regime bordering on xeric.

Soil temperature: 44 to 45 degrees.

Depth to bedrock: 24 to 40 inches

Other features: Cracks are open to the surface for about 150 to 180 days. (mid-June to November). Some pedons lack Bk horizons below 20 inches.

Control section:

Clay content—60 to 70 percent.

A horizon:

Hue—10YR, 7.5YR or 5YR.

Value—3 or 4, dry or moist.

Chroma—2 through 4.

Reaction—Slightly acid through slightly alkaline.

Other features—A surface cover of 20 to 60 percent basalt cobbles is present in most pedons.

Bwss and Bkss horizons:

Hue—10YR, 7.5YR or 5YR.

Value—3 or 4, dry or moist.

Chroma—2 through 4.

Structure—Prismatic, subangular blocky or angular blocky

Reaction—Slightly alkaline or slightly alkaline

Other features—Slickensides are on 20 to 70 percent of faces of peds

Keddie series

The Keddie series consists of very deep, poorly drained soils formed in alluvium weathered from mixed rock sources. Keddie soils are on flood plains. Slopes are 0 to 2 percent. Mean annual precipitation is about 30 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Cumulic Endoaquolls

Typical pedon: Keddie loam, in an area of Susanville Area, Parts of Lassen and Plumas Counties, CA, pasture. (Colors are for dry soils unless otherwise noted).

A1—0 to 17 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; weak medium prismatic structure parting to moderate medium angular blocky; hard, friable, sticky and plastic; many very fine, common fine and few medium roots; common very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

A2—17 to 34 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; common fine prominent brownish yellow (10YR 6/6) mottles, dark yellowish brown (10YR 4/6) moist; massive; very hard, friable, sticky and plastic; common very fine and few fine roots; common very fine interstitial pores; 10 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

Cg1—34 to 43 inches; light gray (10YR 7/2) loam, gray (10YR 5/1) moist; many large prominent yellow (10YR 7/6) mottles, dark yellowish brown (10YR 4/6) moist; massive; very hard, firm, slightly sticky and slightly plastic; few very fine and fine roots; few very fine interstitial pores; 5 percent 2 to 5 mm gravel; neutral (pH 7.0); clear wavy boundary.

Cg2—43 to 50 inches; gray (10YR 6/1) sandy loam, dark greenish gray (5GY 4/1) moist; many large prominent yellow (10YR 7/6) mottles, dark yellowish brown (10YR 4/6) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; no roots; common very fine interstitial pores; neutral (pH 7.0); abrupt wavy boundary.

Cg3—50 to 60 inches; pale brown (10YR 6/3) very gravelly loamy coarse sand, olive gray (5Y 5/2) moist; single grain; loose, nonsticky and nonplastic; no roots; many very fine interstitial pores; 40 percent 2 to 5 mm gravel and 10 percent 5 to 75 mm gravel; neutral (pH 7.0).

Type location: About 4.0 miles northeast of Westwood on McKenzie Meadows; 1,500 feet south of dirt road, 2.0 miles from the intersection of this dirt road with Hwy 36 at the 101 Ranch; 200 feet south and 300 feet east of the northwest corner of section 26, T.29 N., R.9 E.; 40 degrees, 21 minutes, 02 seconds north

latitude and 120 degrees, 56 minutes, 41 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually saturated during the late winter and spring due to a seasonal water table at a depth of 20 to 40 inches. A wet phase has a seasonal water table at a depth of 0 to 20 inches from December through May. Aquic moisture regime.

Soil temperature: 47 to 50 degrees F.

Summer soil temperature: 60 to 62 degrees F.

Control section:

Texture—Loam, gravelly loam or stratified loam, fine sandy loam, sandy loam, silt loam, and clay loam.

When mixed, the average texture is loam or gravelly loam.

Clay content—18 to 27 percent.

Sand content—40 to 50 percent.

Rock fragments—15 to 30 percent gravel.

Mollic epipedon thickness—25 to 34 inches.

Depth to mottles—0 to 15 inches.

Organic carbon content—Decreases irregularly with depth.

A horizon:

Hue—10YR, 2.5Y, N/.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—0 through 4, dry or moist.

Texture—Loam, sandy loam, clay loam or muck.

Rock fragment—0 to 30 percent, mostly gravel.

Reaction—Slightly acid or neutral.

C horizon:

Hue—10YR, 2.5Y, 5Y.

Value—4 to 7 dry, 2 to 5 moist.

Chroma—1 to 6, dry or moist.

Reaction—Slightly acid or neutral.

Other features—Some pedons have buried A horizons at a depth of 39 to 50 inches and have moist color of 10YR 2/1, 2.5Y 2/1 or N2/. Gley colors of 5G 4/2 5GY 4/1 or 4/2 are at a depth of 30 to 46 inches in some pedons. Some pedons have stratified very gravelly loamy coarse sand through very gravelly sandy clay loam below a depth of 40 inches. Silty clay loam and silty clay substratum phases are recognized that have 27 to 35 percent clay at a depth of 40 to 60 inches. The soils mapped as Keddie taxadjuncts have a mean annual soil temperature of 44 to 46 degrees F, which is lower than the temperature defined in the range for series mapped elsewhere. This difference, however, does not significantly affect their use and management.

Langston series

The Langston series consists of very deep, well drained soils that formed in alluvium over lake sediments derived from mixed sources. Langston soils are on lake terraces. Slopes are 2 to 15 percent. The mean annual precipitation is about 8 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Xeric Haplargids

Typical pedon: Langston gravelly loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inches; light brownish gray (10YR 6/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 25 percent pebbles; neutral (pH 7.2); clear smooth boundary.

Bt1—4 to 15 inches; light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; soft, very friable, sticky and slightly plastic; common very fine and fine roots; common very fine interstitial, and common very fine tubular pores; common thin and few moderately thick clay films on faces of peds and in pores; 15 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt2—15 to 20 inches; light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine, fine, and medium roots; common very fine tubular and interstitial pores; few thin clay bridges between sand grains; 30 percent pebbles; slightly alkaline (pH 7.8); gradual wavy boundary.

2C—20 to 40 inches; light gray (10YR 7/2) extremely gravelly sand, dark grayish brown (10YR 4/2) moist; single grain; loose, nonsticky and nonplastic; common very fine and fine and few medium roots; common very fine tubular and interstitial pores; few thin clay bridges between sand grains; 80 percent pebbles and 5 percent cobbles; strongly effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Ck—40 to 60 inches; light gray (10YR 7/2) very gravelly sand, brown (10YR 5/3) moist; single grain; loose, nonsticky and nonplastic; many very fine and fine roots; many very fine interstitial pores; 40 percent pebbles and 5 percent cobbles; violently

effervescent, with few thin lime coating on undersides of some pebbles; slightly alkaline (pH 7.8).

Type location: Washoe County, Nevada, about 1,300 feet south and 1,500 feet west of the northeast corner of section 2, T.36 N., R.19 E.; north latitude of 40 degrees, 24 minutes, 14 seconds; north latitude of 119 degrees, 50 minutes, 57 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from June through October. Aridic moisture regime bordering on Xeric.

Soil temperature: 47 to 52 degrees F.

Depth to discontinuity: 11 to 20 inches.

Control section:

Clay content—18 to 30 percent in the upper part and 0 to 5 percent in the lower part.

Rock fragments—Averages 10 to 35 percent in the upper part and 65 to 90 percent in the lower part.

A horizon:

Value—5 through 7 dry, 3 or 4 moist, when mixed.

Chroma—2 or 3.

Reaction—Slightly acid or neutral.

Bt horizon:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 or 3.

Texture—Sandy clay loam, clay loam, loam.

Clay content—18 to 30 percent.

Rock fragments—Averages 10 to 35 percent.

Reaction—Slightly acid to slightly alkaline.

Structure—Subangular blocky or is massive.

2C and 2Ck horizons:

Hue—2.5Y or 10YR.

Value—3 through 7 dry, 3 through 5 moist.

Chroma—1 through 4.

Texture—Stratified gravelly sand to extremely gravelly coarse sand.

Rock fragments—Averages 60 to 90 percent, most of which are pebbles.

Reaction—Slightly alkaline or moderately alkaline.

Other features—Depth to lime coatings on rock fragments, 11 to 40 inches. Some pedons have thin silica coats on undersides of rock fragments.

Effervescence—Noneffervescent to violently effervescent.

Other features—Bk horizons maybe present in some pedons.

Leviathan series

The Leviathan series consists of very deep, well drained soils that formed in alluvium derived mainly from mixed rocks. Leviathan soils are on stream terraces and fan remnants. Slopes are 2 to 8 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Leviathan very gravelly sandy loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with 5 percent stones, 5 percent cobbles, and 15 percent pebbles.

A1—0 to 2 inches; brown (10YR 5/3) very gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; strong fine granular structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 25 percent pebbles, 10 percent cobbles, and 5 percent stones; slightly acid (pH 6.4); abrupt smooth boundary.

A2—2 to 8 inches; brown (10YR 5/3) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine and common medium roots; common very fine and fine tubular pores; common distinct clay films on faces of peds and lining pores; 25 percent pebbles; slightly acid (pH 6.4); clear smooth boundary.

BAt—8 to 12 inches; brown (10YR 5/3) extremely gravelly sandy clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine and medium roots; few thin clay films coating and bridging sand grains; 45 percent pebbles, 10 percent cobbles, and 5 percent stones; neutral (pH 6.6); clear smooth boundary.

Bt1—12 to 25 inches; yellowish brown (10YR 5/4) very gravelly sandy clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine and few fine and medium roots; few fine and medium roots; few very fine and fine tubular pores; common thin clay films coating and bridging sand grains; 45 percent pebbles and 10 percent cobbles; slightly acid (pH 6.4); clear smooth boundary.

Bt2—25 to 40 inches; brown (7.5YR 5/4) very gravelly sandy clay loam, brown (7.5YR 4/4) moist; strong medium subangular blocky structure; hard, firm, sticky and plastic; common very fine and few fine and medium roots; few fine and very fine tubular pores; common thin and common moderately thick clay films on faces of peds and coating and bridging sand grains; 45 percent pebbles and 10 percent cobbles; slightly acid (pH 6.4) clear smooth boundary.

Bt3—40 to 60 inches; yellowish brown (10YR 5/4) very gravelly sandy clay loam, dark yellowish brown (10YR 4/4) moist; massive; hard, friable, slightly sticky and slightly plastic; few very fine roots; few fine and very fine tubular pores; common thin clay films coating and bridging sand grains; 45 percent pebbles and 10 percent cobbles; neutral (pH 6.6).

Type location: Washoe County, Nevada; about 1,600 feet east and 400 feet south of the northwest corner of sec. 10, T.25 N. R.18 E.; 40 degrees, 03 minutes, 18 seconds north latitude and 119 degrees 57 minutes 16 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in the moisture control section in winter and spring, dry in summer and fall; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 53 degrees F.

Mollic epipedon thickness: 9 to 14 inches, may include the Bt1 horizon in some pedons.

Depth to base of argillic horizon: 40 to 70 inches.

Reaction: Slightly acid or neutral.

Surface stoniness: 0 to 15 percent.

Particle-size control section:

Clay content—Averages 27 to 35 percent.

Sand content—35 to 45 percent coarse sand plus very coarse sand (55 to 65 percent of the total sand fraction).

Rock fragments—Averages 50 to 60 percent, mostly pebbles and includes cobbles and stones.

Lithology of fragments are granitic rocks such as granite or volcanic rocks such as andesite.

A horizon:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.

Structure—Subangular blocky but immediate surface is granular or single grain in some pedons.

Organic matter content—1 to 3 percent.

Bt horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Very cobbly sandy clay loam or very gravelly sandy clay loam in upper subhorizons, but some pedons have very gravelly coarse sandy loam or very gravelly clay loam; lower subhorizons are dominantly very gravelly sandy clay loam, but some pedons have subhorizons of extremely gravelly sandy clay loam, very gravelly coarse sandy loam, or very gravelly clay loam.

Rock fragments—The upper 20 inches is 35 to 50 percent pebbles and 10 to 20 percent cobbles and stones; lower subhorizons have 50 to 75 percent of which 10 to 22 percent are cobbles, stones, or boulders.

Structure—Prismatic or blocky in the upper part, blocky or is massive in the lower part.

Other features—Below 24 inches cobbles and stones are often highly weathered pararock fragments which easily crush to fine pebbles and very coarse sand.

Lolak series

The Lolak series consists very deep, poorly drained soils that formed in lacustrine sediments derived from mixed volcanic rocks. Lolak soils are on lake terraces. Slopes range from 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual air temperature is about 44 degrees F.

Taxonomic class: Fine, smectitic, calcareous, frigid Vertic Halaquepts

Typical pedon: Lolak silty clay loam in an area of Modoc County, CA, Alturas Area, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 9 inches; light brownish gray (2.5Y 6/2) silty clay loam, very dark grayish brown (2.5Y 3/2) moist; massive; very hard, friable, very sticky and plastic; common very fine roots; common very fine interstitial and tubular pores; strongly effervescent; disseminated lime; strongly alkaline (pH 8.6); clear smooth boundary.

A2—9 to 15 inches; light brownish gray (2.5Y 6/2) clay loam, dark grayish brown (2.5Y 4/2) moist; weak fine subangular blocky structure; hard, friable, very sticky and plastic; very few very fine roots; common very fine tubular pores and very few very fine interstitial pores; strongly effervescent; disseminated lime; strongly alkaline (pH 8.8); abrupt smooth boundary.

C1—15 to 32 inches; light olive gray (5Y 6/2) silty clay, dark grayish brown (2.5Y 4/2) moist; common fine

prominent bluish gray (5B 5/1) moist iron mottles which change or disappear on exposure to air; weak fine and medium subangular blocky structure; very hard, firm, sticky and very plastic; very few very fine roots; few very fine tubular pores; strongly effervescent; disseminated lime; strongly alkaline (pH 8.6); clear smooth boundary.

C2—32 to 44 inches; light gray (5Y 7/2) silty clay, grayish brown (2.5Y 5/2) moist; massive, very hard, firm, sticky and plastic; very few very fine interstitial pores; strongly effervescent; disseminated lime; very strongly alkaline (pH 9.2); abrupt smooth boundary.

C3—44 to 60 inches; light brownish gray (2.5Y 6/2) sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine interstitial pores; violently effervescent; disseminated lime; strongly alkaline (pH 8.8).

Type location: Modoc County, California; about 360 feet east of stock pond and 760 feet north of the east-west dirt road, 2.7 miles southwest on dirt road from west side-road to stock pond and 5 miles southwest of the town of Davis Creek in NW1/4, NW1/4 of section 27, T.45 N., R.13 E.; 41 degrees, 43 minutes, 3 seconds north latitude and 120 degrees, 27 minutes, 58 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually saturated in the spring at depths of 6 to 20 inches during most years.

Mean annual soil temperature: 42 to 47 F.

Control section:

Clay content—Averages 35 to 50 percent.

Hue—10YR thru 5Y,

Value—6 or 7 dry, 3 through 5 moist,

Chroma—1 or 2

Reaction—Strongly alkaline to very strongly alkaline.

Exchangeable sodium percentage—30 in the surface 20 inches and decreases as depth increases

Organic matter content—Decreases as depth increases

Effervescence—Strongly to violently.

Redoximorphic features—Redox depletions occur as few or common, and range from fine to coarse iron depletions or concentrations at depths of less than 36 inches and often are as high as 6 inches in some pedons.

A horizons:

Structure—Weak or moderate very thin to medium platy, granular, blocky or massive.

C horizons:

Texture—Averages silty clay or clay. Thin (6 inches) strata of silty clay loam, silt loam or fine sand are in some pedons. The fine sand occurs only in 1 inch thick strata.

Consistence—Very hard or extremely hard; dry and firm to very firm moist.

Other features—Sand or gravelly sand occur in some pedons below 40 inches.

Longdis series

The Longdis series consists of very deep, well drained soils that formed in alluvium over lacustrine deposits derived from volcanic rocks and influenced by volcanic ash. Longdis soils are on lake terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine, smectitic, mesic Xeric Natrargids

Typical pedon: Longdis silty clay loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 5 inches; light brownish gray (10YR 6/2) silty clay loam, dark brown (10YR 3/3) moist; moderate very thin and thin platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine roots; many very fine vesicular pores; moderately alkaline (pH 8.0); abrupt wavy boundary.

Btn—5 to 11 inches; light brownish gray (10YR 6/2) silty clay, dark brown (10YR 3/3) moist exterior, dark yellowish brown (10YR 4/4) moist; strong fine and medium prismatic structure parting to strong fine and medium subangular blocky; very hard, firm, very sticky and very plastic; many very fine and fine roots; common very fine tubular pores; many distinct clay films on faces of peds and lining pores; moderately alkaline (pH 8.0); abrupt wavy boundary.

Btnk1—11 to 26 inches; pale brown (10YR 6/3) clay, dark grayish brown (10YR 4/2) moist; strong fine and medium prismatic structure parting to strong fine and medium angular blocky; very hard, firm, very sticky and very plastic; many very fine and fine roots; common very fine tubular pores; many distinct clay films on faces of peds and lining pores; secondary carbonates segregated as few fine masses; slightly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Btkn2—26 to 45 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; strong very fine angular blocky structure; hard, firm, very sticky and very plastic; common very fine roots; few very fine tubular pores; many distinct clay films on faces of peds and lining pores; secondary carbonates segregated as common fine masses; strongly effervescent; strongly alkaline (pH 9.0); abrupt smooth boundary.

2C—45 to 61 inches; light brownish gray (2.5Y 6/2) stratified silty clay and silty clay loam, grayish brown (2.5Y 5/2) moist; massive; hard and very hard, friable and firm, very sticky and very plastic; no roots observed; few very fine tubular pores; strongly alkaline (pH 9.0).

Type location: Washoe County, Nevada; at the north end of Long Valley; about 2,300 feet south and 450 feet west of the northeast corner of section 2, T.44 N., R.19 E.; USGS Mosquito Valley 7.5 minute topographic quadrangle; 41 degrees, 45 minutes, 52 seconds north latitude and 119 degrees, 48 minutes, 37 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring; dry from mid-June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 51 degrees F.

Ochric epipedon thickness: 2 to 5 inches.

Depth to base of natric horizon: 35 to 50 inches.

Depth to identifiable secondary carbonates: 11 to 24 inches.

Particle-size control section:

Clay content—40 to 50 percent.

A horizon:

Value—6 or 7 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Reaction—Slightly alkaline or moderately alkaline.

Btkn horizon:

Value—5 through 7 dry; 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Clay content—35 to 50 percent.

Texture—Silty clay or clay.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—13 to 45.

Reaction—Moderately alkaline or strongly alkaline.

Btkn horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry; 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Silty clay, clay, or silty clay loam.

Clay content—40 to 50 percent.

Salinity (EC)—2 to 4 mmhos/cm.

Sodicity (SAR)—13 to 45.

Effervescence—Slightly effervescent or strongly effervescent.

Identifiable secondary carbonates—Few to many fine to coarse masses.

Calcium carbonate equivalent—1 to 5 percent.

Other features—Few or common fine or medium masses of secondary gypsum are in the Btkn2 horizon in some pedons.

2C horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Stratified silty clay loam, silty clay or clay, but includes strata of loam and clay loam; ashy fine sandy loam or ashy very fine strata 1 to 2 inches thick are in some pedons.

Clay content—35 to 45 percent.

Structure—Platy or is massive.

Consistence—Hard or very hard dry, very friable to firm moist.

Salinity (EC)—2 to 8 mmhos/cm.

Sodicity (SAR)—13 to 45.

Effervescence—Noneffervescent to violently effervescent.

Other features—Few or common fine to medium masses of secondary carbonate are in some pedons; few or common fine or medium relict redox concentrations with chroma of 4 or 5 are in some pedons; masses of secondary gypsum are in some pedons.

Longval series

The Longval series consists of very deep, well drained soils that formed in alluvium derived from volcanic rocks and volcanic ash. Longval soils are on footslopes of mountains. Slopes are 4 to 30 percent. The mean annual precipitation is about 25 inches and the mean annual temperature is about 40 degrees F.

Taxonomic class: Ashy-skeletal, glassy Humic Xeric Vitricryands

Typical pedon: Longval gravelly ashy fine sandy loam in an area of map unit 448, forestland. (Colors are for dry soil unless otherwise noted).

- Oi—0 to 1 inch; very dark grayish brown (10YR 3/2) slightly decomposed plant material consisting of needles and leaves very dark brown (10YR 2/2) moist; moderate thick platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine to medium interstitial pores; strongly water repellent, more than 60 seconds to adsorb a bead of water on the surface; 5 percent gravel; moderately acid (pH 6.0); abrupt smooth boundary
- A1—1 to 7 inches; dark grayish brown (10YR 4/2) gravelly ashy fine sandy loam, very dark brown (10YR 2/2) moist; moderate very fine and fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine through medium roots; many very fine interstitial pores; 5 percent cobbles; 25 percent volcanic gravel; moderately acid (pH 6.0); abrupt smooth boundary.
- A2—7 to 15 inches; brown (10YR 4/3) gravelly ashy fine sandy loam, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine through coarse roots; many very fine interstitial pores; 1 percent cobbles; 25 percent volcanic gravel; moderately acid (pH 6.0); clear wavy boundary.
- AB—15 to 32 inches; brown (10YR 4/3) very cobbly ashy fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine, common medium through coarse roots; many very fine interstitial pores; 10 percent stones; 25 percent cobbles; 20 percent volcanic gravel; moderately acid (pH 6.0); clear wavy boundary.
- C1—32 to 43 inches; brown (10YR 5/3) very cobbly ashy fine sandy loam, very dark grayish brown (10YR 3/2) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine, many fine through medium, and few coarse roots; many very fine tubular pores; 5 percent stones, 15 percent cobbles, 30 percent volcanic gravel; moderately acid (pH 6.0); clear wavy boundary.
- C2—43 to 60 inches; yellowish brown (10YR 5/4) very stony ashy fine sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; common very fine through medium roots; many very fine tubular pores; 10 percent stones, 10 percent cobbles and 30 percent gravel; moderately acid (pH 6.0).

Type location: Lassen County, California; on the Modoc National Forest about 2 miles southwest of Lost Lake; about 1,900 feet east and 1,800 feet south of

the northwest corner of section 28, T.38 N., R.16 E.; USGS Emerson Peak 7.5 minute topographic quadrangle; approximately 41 degrees, 08 minutes, 08 seconds north latitude and 120 degrees 10 minutes, 6.4 seconds west longitude, NAD27.

Range in Characteristics:

- Soil moisture:* These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; Xeric moisture regime.
- Mean annual soil temperature:* 39 to 44 degrees F.
- Mean summer soil temperature:* 44 to 49 degrees F.
- Mollic epipedon thickness:* 20 to 40 inches; C horizons that meet the color requirement, do not have sufficient organic matter to meet the requirements of mollic epipedons.
- Oxalate A1 + 1/2 oxalate iron:* 0.4 to 0.8 percent.
- Sodium Fluoride pH:* 9.5 to 11.0 throughout.
- Volcanic glass content:* 50 to 80 percent in the coarse silt through fine sand fractions.
- Profile reaction:* Moderately acid or slightly acid.
- Particle-size control section:*
- Clay content—5 to 12 percent.
 - Rock fragments—Averages 40 to 60 percent, mainly gravel and cobbles. Lithology of fragments is volcanic rock such as tuff, andesite, or basalt.
- A horizon:**
- Hue—10YR or 7.5YR.
 - Value—3 or 4 dry, 2 or 3 moist.
 - Chroma—2 or 3, dry or moist.
 - Base saturation—50 to 85 percent.
 - Organic matter content—1 to 4 percent.
- AB horizon:**
- Hue—10YR or 7.5YR.
 - Value—4 or 5 dry, 3 or 4 moist.
 - Chroma—2 through 4, dry or moist.
 - Rock fragments—40 to 60 percent, mainly cobbles and gravel.
 - Texture—Ashy fine sandy loam.
- C horizon:**
- Hue—10YR or 7.5YR.
 - Value—4 or 5 dry, 3 or 4 moist.
 - Chroma—2 through 4, dry or moist.
 - Structure—Massive.
 - Rock fragments—40 to 60 percent, mainly cobbles and stones.

Lotawaca series

The Lotawaca series consists of deep, well drained soils that formed in volcanic ash and colluvium over residuum derived from andesite or tuff. Lotawaca soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 30 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy Humic Xeric Vitricryands

Typical pedon: Lotawaca very gravelly ashy sandy loam in an area of map unit 449, forestland. (Colors are for dry soil unless otherwise noted).

Oe—0 to 1 inch; dark grayish brown (10YR 4/2), gravelly moderately decomposed plant material, very dark brown (10YR 2/2), moist; weak fine granular structure; soft, very friable, nonsticky, nonplastic; common very fine roots; many very fine interstitial pores; 25 percent pebbles; slightly acid (pH 6.2); clear smooth boundary.

A—1 to 7 inches; brown (10YR 5/3), very gravelly ashy sandy loam, dark brown (10YR 3/3), moist; weak fine and medium subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine to very coarse roots; many very fine interstitial and common very fine tubular pores; 40 percent pebbles, 5 percent cobbles; slightly acid (pH 6.1); clear wavy boundary.

Bt1—7 to 20 inches; brown (10YR 5/3), very gravelly ashy loam, dark brown (10YR 3/3), moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; many fine to very coarse roots and common very fine roots; common very fine interstitial and tubular pores; 15 percent faint clay bridges between sand grains; 45 percent pebbles, 10 percent cobbles; moderately acid (pH 5.8); clear wavy boundary

Bt2—20 to 40 inches; light yellowish brown (10YR 6/4), extremely cobbly ashy loam, dark yellowish brown (10YR 4/4), moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky, slightly plastic; many fine to very coarse roots and common very fine roots; common very fine interstitial and tubular pores; 15 percent faint clay films on all faces of peds and 15 percent faint clay films on surfaces along pores; 40 percent pebbles, 30 percent cobbles; moderately acid (pH 5.8); clear irregular boundary.

Cr—40 inches; weathered and highly fractured andesitic tuff.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 2,600 feet north and 800 feet east of the southwest corner of section 3, T.44 N, R.15 E; Payne Peak USGS 7.5 minute topographic quadrangle; 41 degrees, 37 minutes, 26.6 seconds north latitude and 120 degrees, 15 minutes, 20.9 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 41 to 45 degrees F.

Mean summer soil temperature: 44 to 47 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.4 to 1 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Umbric epipedon thickness: 14 to 20 inches.

Depth to bedrock: 40 to 60 inches to a paralithic contact. The paralithic materials below the contact are weathered andesite or tuff.

Profile reaction: Moderately acid or slightly acid.

Particle-size control section:

Clay content—Averages 18 to 25 percent, (field estimates).

Rock fragments—Average 60 to 80 percent, mainly gravel or cobbles.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Rock fragments—Averages 35 to 70 percent, mainly gravel or cobbles.

Organic matter content—1 to 4 percent.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Clay content—18 to 25 percent.

Rock fragments—Averages 35 to 70 percent, mainly gravel or cobbles.

Organic matter content—1 to 2 percent.

Bt2 horizon:

Hue—10YR or 7.5YR.

Texture—Ashy loam or ashy sandy clay loam.

Clay content—18 to 25 percent.

Rock fragments—60 to 80 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Lyonman series

The Lyonman series consists of moderately deep, well drained soils that formed in volcanic ash and colluvium over residuum derived from glassy tuff. Lyonman soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 20 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid Vitrandic Argixerolls

Typical pedon: Lyonman gravelly ashy sandy loam in an area of map unit 451, forestland. (Colors are for dry soil unless otherwise noted).

- Oi—0 to 1 inch; very dark grayish brown (10YR 3/2) slightly decomposed plant material consisting of needles and leaves very dark brown (10YR 2/2) moist; moderate thick platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine to medium interstitial pores; strongly water repellent, more than 60 seconds to adsorb a bead of water on the surface; 5 percent gravel; moderately acid (pH 6.0); abrupt smooth boundary
- A1—1 to 7 inches; grayish brown (10YR 5/2) gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate very fine subangular blocky structure; soft, very friable, slightly sticky and nonplastic; many very fine and fine roots; many very fine interstitial pores; 20 percent hard volcanic gravel; slightly acid (pH 6.4); clear wavy boundary.
- A2—7 to 13 inches; grayish brown (10YR 5/2) very gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine through medium and common coarse roots; many very fine tubular pores; 1 percent stones, 5 percent cobbles, 50 percent hard volcanic gravel; neutral (pH 6.6); clear wavy boundary.
- Bt1—13 to 18 inches; brown (10YR 5/3) very gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; few fine, medium and coarse roots; many very fine interstitial pores; common distinct clay films on faces of peds and lining pores; 1 percent stones, 2 percent cobbles and 50 percent hard volcanic gravel; neutral (pH 6.6); clear wavy boundary.
- Bt2—18 to 31 inches; brown (7.5YR 5/4) extremely gravelly ashy loam, dark brown (7.5YR 3/4) moist;

moderate medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; many very fine and few fine tubular pores; common distinct clay films on faces of peds and lining pores; 1 percent stones, 2 percent cobbles and 60 percent hard volcanic gravel; neutral (pH 7.0); clear irregular boundary.

Crt—31 to 56 inches; very pale brown (10YR 8/2) soft weathered pyroclastic andesitic tuff, grayish brown (10YR 5/2) moist; pockets of clay weathered in place; few faint clay films along fractures.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains about 2.5 miles up the Deep Creek Road from Modoc County Road 1 about 1.5 miles south of Cedarville, CA.; no PLSS survey available; in projected section 3, T.42 N., R.15 E.; USGS Cedarville 7.5 minute topographic quadrangle; 41 degrees, 30 minutes, 51.3 seconds north latitude and 120 degrees, 13 minutes, 29.7 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 41 to 45 degrees F.

Mean summer soil temperature: 47 to 55 degrees F.

Oxalate A1 + 1/2 oxalate Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 12 to 20 inches.

Depth to bedrock: 22 to 40 inches to a paralithic contact.

The paralithic materials below the contact are weathered pyroclastic andesitic tuff.

Particle-size control section:

Clay content—Averages 18 to 27 percent, (field estimates).

Rock fragments—50 to 65 percent, mainly gravel or cobbles.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Rock fragments—Averages 35 to 70 percent, mainly gravel or cobbles.

Organic matter content—1 to 4 percent.

Reaction—Moderately acid or slightly acid.

Bt horizon:

Hue—10YR or 7.5YR.

Texture—Ashy loam or ashy sandy clay loam.

Clay content—18 to 27 percent.

Rock fragments—50 to 65 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Reaction—Slightly acid or neutral.

Macnot series

The Macnot series consists of very deep, somewhat excessively drained soils that formed in volcanic ash and alluvium from volcanic rocks. Macnot soils are on beach terraces, inset fans and alluvial fans. Slopes are 0 to 8 percent. Mean annual temperature is about 46 degrees; mean annual precipitation is about 8 inches.

Taxonomic class: Ashy-skeletal, glassy, mesic Vitrixerandic Haplocalcids

Typical pedon: Macnot very gravelly sandy loam in an area of map unit 456, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 1 inch; light brownish gray (2.5Y 6/2) very gravelly ashy sandy loam, dark grayish brown (2.5Y 4/2) moist; moderate thick and very thick platy structure; slightly hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine vesicular pores; 50 percent volcanic gravel; strongly effervescent; moderately alkaline (pH 8.4); abrupt wavy boundary.

A2—1 to 6 inches; light brownish gray (2.5Y 6/2) gravelly ashy sandy loam, light olive brown (2.5Y 5/3) moist; strong medium and thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine vesicular pores; 25 percent volcanic gravel; violently effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Bk1—6 to 16 inches; light gray (10YR 7/2) very gravelly ashy sandy loam, brown (10YR 5/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; common very fine tubular pores; 50 percent volcanic gravel; 5 percent 2 to 5 millimeter soft lime coats on faces of peds; 20 percent 0.5 to 1 millimeter lime coats on underside of rock fragments; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bk2—16 to 24 inches; very pale brown (10YR 8/2) very gravelly ashy loamy sand, brown (10YR 5/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine

interstitial pores; common medium and coarse soft masses of lime; 55 percent volcanic gravel; 10 percent 0.5 to 1 millimeter thick lime coats on rock fragments; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

2Bkq1—24 to 36 inches; very pale brown (10YR 8/2) extremely gravelly ashy sand, brown (10YR 5/3) moist; massive; soft, very friable; nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; nearly continuous 0.5 to 1 millimeter thick lime and silica coats on rock fragments; 60 percent volcanic gravel; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary

2Bkq2—36 to 62 inches; light gray (10YR 7/2) stratified extremely gravelly ashy coarse sand and very gravelly ashy sand, dark yellowish brown (10YR 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine interstitial pores; averages 65 percent volcanic gravel; 5 percent cobbles; 5 percent lenses of weak silica cementation; violently effervescent; strongly alkaline (pH 8.8).

Type location: Washoe County, Nevada; about 1,000 feet east and 1,400 feet north of the southwest corner of section 26, T.36 N., R.20 E.; Hillside Spring quadrangle; 40 degrees, 58 minutes, 2.3 seconds north latitude and 119 degrees, 42 minutes, 28.1 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in late winter and spring. Aridic bordering xeric soil moisture regime.

Soil temperature: 47 to 50 degrees F. Depth to calcic horizon: 6 to 12 inches.

Control section:

Clay content—Averages 1 to 6 percent.

Rock fragments—Averages 50 to 70 percent, mainly pebbles of volcanic origin. Mineralogy: 60 to 80 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

A horizon:

Hue: 10YR or 2.5Y.

Value—6 or 7 dry, 3 through 5 moist.

Chroma—1 through 3.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Non-effervescent to violently effervescent.

Calcium carbonate equivalent—1 to 5.

Bk horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 or 5 moist.

Texture—Ashy sandy loam, ashy loamy sand.

Clay content—4 to 10 percent.

Rock fragments—35 to 60 percent, mainly pebbles of volcanic origin.

Structure—Fine through coarse subangular blocky or is massive.

Calcium carbonate equivalent—10 to 15.

Salinity—Nonsaline or slightly saline (EC 0 to 8 mmhos/cm).

Other features—Visible secondary carbonates include 10 to 90 percent lime coats on undersides of rock fragments, and 5 to 15 percent soft masses and filaments.

Bkq horizons:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Texture—Stratified sand and coarse sand.

Clay content—0 to 5 percent.

Rock fragments—Averages 60 to 80 percent, mainly pebbles. Individual strata range from 35 to 80 percent.

Reaction—Moderately alkaline or strongly alkaline.

Calcium carbonate equivalent: 3 to 8 percent.

Salinity—Non-saline (EC 0 to 4 mmhos/cm).

Other features—0 to 10 percent silica-lime cemented masses and 0 to 10 percent silica-lime coats on rock fragments.

Madeline series

The Madeline series consists of shallow, well drained soils that formed in residuum and colluvium from basalt, tuff and andesite. Madeline soils are on plateaus and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey, smectitic, frigid Lithic Argixerolls

Typical pedon: Madeline very cobbly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with 20 percent cobbles and 30 percent pebbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) very cobbly loam, very dark brown (10YR 2/2) moist; moderate thin and medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine interstitial pores; 20 percent cobbles and 30 percent pebbles; neutral (pH 7.0); clear wavy boundary.

A2—2 to 6 inches; dark grayish brown (10YR 4/2) clay loam, very dark brown (10YR 2/2) moist; weak very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; 10 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt1—6 to 14 inches; brown (10YR 4/3) gravelly clay, dark brown (10YR 3/3) moist; strong fine and medium subangular blocky structure; hard, very friable, very sticky and very plastic; common very fine and few fine roots; many very fine tubular pores; many distinct clay films on faces of peds and lining pores; 25 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt2—14 to 19 inches; yellowish brown (10YR 5/4) gravelly clay, brown (10YR 4/3) moist; strong fine and medium subangular blocky structure; hard, friable, very sticky and very plastic; common very fine and fine roots; many very fine tubular pores; 25 percent pebbles; many distinct clay films on faces of peds and lining pores; neutral (pH 7.2); abrupt smooth boundary.

R—19 inches; hard basalt.

Type location: Washoe County, Nevada; west of Long Valley; about 400 feet east and 2,350 feet south of the northwest corner of section 18, T.43 N., R.19 E.; USGS Carter Reservoir 7.5 minute topographic quadrangle; 41 degrees, 38 minutes, 56 seconds north latitude and 119 degrees, 54 minutes, 16 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry from July through October; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 43 to 47 degrees F.

Mollic epipedon thickness: 7 to 15 inches; includes part or all of the argillic horizon.

Depth to bedrock: 10 to 20 inches to a lithic contact; the upper one or two inches in some pedons is slightly weathered.

Particle-size control section:

- Clay content—Averages 35 to 60 percent.
- Rock fragments—5 to 35 percent.
- Other features—Some pedons have 4 to 8 inch thick transitional BA horizons.

A horizon:

- Hue—5YR through 10YR.
- Value—4 or 5 dry, 2 or 3 moist. A thin subhorizon may be 6 dry and 4 moist.
- Chroma—1 through 3, dry or moist.
- Reaction—Slightly acid through slightly alkaline.
- Organic matter content—1 to 3 percent.

Bt horizons:

- Hue—5YR through 10YR.
- Value—3 through 6 dry, 3 or 4 moist.
- Chroma—2 through 4, dry or moist.
- Texture—Clay, sandy clay, or clay loam; subhorizons in the upper part are sandy clay loam in some pedons.
- Clay content—35 to 60 percent clay; thin upper subhorizons are 25 to 35 percent in some pedons.
- Rock fragments—5 to 35 percent, cobbles, stones and pebbles.
- Structure—Weak to strong, prismatic, subangular or angular blocky.
- Consistence—Slightly hard to extremely hard dry, very friable to very firm moist; slightly hard and very friable consistence typically in upper subhorizons only.
- Reaction—Slightly acid through slightly alkaline.

Marepas series

The Marepas series consists of shallow over volcanic rock, well drained soils that formed in residuum and colluvium derived from tuff and volcanic rocks and volcanic ash. Marepas soils are on plateaus. Slopes are 4 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy-skeletal, glassy, mesic Lithic Argixerolls

Typical pedon: Marepas very gravelly mucky ashy sandy loam in an area of map unit 539, rangeland (Colors are for dry soil unless otherwise noted.)

Oi—0 to 0.5 inch; slightly decomposed plant material; material consists mainly of juniper twigs and needles; about 10 percent of the surface is bare mineral soil.

- A1—0.5 to 1.5 inches; very dark gray (10YR 3/1) very gravelly mucky ashy sandy loam, black (10YR 2/1) moist; moderate medium subangular blocky structure parting to weak fine granular; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine vesicular pores; 15 percent cobbles and 35 percent hard volcanic pebbles; slightly alkaline (pH 7.4); abrupt wavy boundary.
- A2—1.5 to 5 inches; dark grayish brown (10YR 4/2) very gravelly mucky ashy sandy loam, very dark brown (10YR 2/2) moist; moderate fine and medium granular structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine vesicular pores; 15 percent cobbles and 35 percent hard volcanic pebbles; slightly alkaline (pH 7.6); abrupt wavy boundary.
- Bt—5 to 13 inches; brown (10YR 5/3) very cobbly ashy sandy clay loam, very dark grayish brown (10YR 3/2) moist; moderate medium subangular blocky structure parting to moderate fine granular; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots and many medium through very coarse roots; common very fine tubular pores; common faint and distinct clay films on faces of peds and lining pores; 30 percent cobbles and 20 percent hard volcanic pebbles; slightly alkaline (pH 7.6); clear wavy boundary.
- R—13 to 23 inches; hard andesitic tuff; few roots and soil in some fractures.

Type location: Washoe County, Nevada; USGS Boulder Mountain 7.5 minute topographic quadrangle; unsectionized; about 1.5 miles west of Home Camp; 41 degrees, 21 minutes, 48 seconds north latitude and 119 degrees, 52 minutes, 14 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry from July through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 51 degrees F.

Mollic epipedon thickness: 7 to 14 inches, includes the Bt horizon.

Depth to bedrock: 7 to 14 inches to a lithic contact
Volcanic glass content: 35 to 60 percent in the coarse silt through fine sand fractions.

Profile reaction: Neutral or slightly alkaline.

Control section:

Clay content—12 to 18 percent.

Rock fragments—35 to 50 percent mostly pebbles and cobbles. Lithology of fragments are volcanic rocks such as andesite and tuff.

A horizon:

Value—2 or 3 moist.
 Chroma—1 through 3.

Bt horizon:

Hue—10YR or 7.5YR.
 Value—2 or 3 moist.
 Chroma—2 or 3.
 Clay content—20 to 25 percent.
 Structure—Angular blocky or subangular blocky.
 Rock fragments—35 to 60 percent, mainly pebbles
 and cobbles.
 Consistence—Slightly hard or hard dry.

Mazuma series

The Mazuma series consists of very deep, well drained soils that formed in alluvium and lacustrine deposits derived from mixed sources. Mazuma soils are on lake terraces. Slopes are 0 to 4 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents

Typical pedon: Mazuma fine sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

- A1—0 to 2 inches; very pale brown (10YR 7/3) fine sandy loam, brown (10YR 4/3) moist; strong medium and thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine vesicular pores; 10 percent 2 to 5 millimeter pebbles; slightly effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.
- A2—2 to 6 inches; light gray (2.5Y 7/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate thick platy structure; slightly hard, very friable, nonsticky and nonplastic; few fine roots; many very fine and common fine vesicular pores; slightly effervescent; strongly alkaline (pH 9.0); abrupt smooth boundary.
- Bk—6 to 15 inches; light gray (10YR 7/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; weak coarse subangular blocky structure; slightly hard, very friable; nonsticky and nonplastic; many very fine and fine and common medium roots; many very fine tubular pores; strongly effervescent; few fine soft masses of lime; strongly alkaline (pH 9.0); clear smooth boundary.
- C1—15 to 28 inches; light gray (2.5Y 7/2) fine sandy loam and sandy loam, olive brown (2.5Y 4/3) moist;

massive; soft, very friable, slightly sticky and slightly plastic; few fine roots; common very fine tubular pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt smooth boundary.

C2—28 to 36 inches; light gray (2.5Y 7/2) stratified fine sandy loam and sandy loam, olive brown (2.5Y 4/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; few fine roots; few very fine tubular pores; 10 percent 2 to 5 millimeter pebbles; violently effervescent; very strongly alkaline (pH 9.6); abrupt smooth boundary.

C3—36 to 51 inches; light gray (2.5Y 7/2) stratified very fine sandy loam and sandy loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many fine and very fine interstitial pores; violently effervescent; very strongly alkaline (pH 9.6); abrupt smooth boundary.

C4—51 to 62 inches; light gray (2.5Y 7/2) gravelly sandy loam, olive brown (2.5Y 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; few fine tubular pores; 15 percent 2 to 5 millimeter pebbles and 5 percent 5 millimeter to 1 centimeter pebbles; violently effervescent; very strongly alkaline (pH 9.6).

Type location: Washoe County, Nevada; about 0.7 mile east of the Nevada-California state line on the east side of Surprise Valley; about 75 feet east of main road on north side of trail; about 350 feet east and 650 feet north of the southwest corner of section 16, T.41 N., R.18 E.; 41 degrees, 28 minutes, 07 seconds north latitude and 119 degrees, 59 minutes, 04 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and spring, dry from summer to mid-fall; typical aridic (torric) moisture regime.

Mean annual soil temperature: 53 to 57 degrees F.

Salinity (EC): 2 to 32 mmhos/cm.

Sodicity (SAR): 13 to 100.

Control section:

Clay content—5 to 15 percent.

Fine sand or coarser content—More than 35 percent.

Rock fragments—A few strata have up to 25 percent pebbles.

A horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry; 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Reaction—Moderately alkaline to very strongly alkaline.

percent stones, 20 percent cobbles, and 20 percent pebbles.

Bk horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry; 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Structure—Subangular blocky, platy, or it is massive.

Consistence—Slightly hard or hard, dry.

Identifiable secondary carbonates—Occurs as few filaments or coats on faces of peds.

Calcium carbonate equivalent—1 to 10 percent.

A—0 to 4 inches; pale brown (10YR 6/3) extremely cobbly fine sandy loam, dark brown (10YR 3/3) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and fine vesicular pores; 15 percent stones, 20 percent cobbles, and 30 percent pebbles; neutral (pH 6.8); clear wavy boundary.

Bw1—4 to 10 inches; light brownish gray (10YR 6/2) extremely cobbly fine sandy loam, dark brown (10YR 3/3) moist; strong medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine tubular pores; 15 percent stones, 20 percent cobbles and 30 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bw2—10 to 20 inches; pale brown (10YR 6/3) extremely gravelly fine sandy loam, dark brown (10YR 3/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; many very fine, common fine and medium roots; many very fine interstitial pores; 3 percent stones, 20 percent cobbles, and 50 percent pebbles; neutral (pH 7.2); clear irregular boundary.

2Cqk1—20 to 25 inches; light yellowish brown (10YR 6/4) extremely cobbly loamy sand, dark grayish brown (10YR 4/2) moist; massive; soft, very friable, nonsticky and nonplastic; many very fine and fine, common medium and few coarse roots; many very fine interstitial pores; 10 percent stones, 35 percent cobbles, and 40 percent pebbles; secondary carbonates and silica segregated as thin (<0.5 millimeter) coats on 30 percent of the bottoms of rock fragments; slightly alkaline (pH 7.6); clear irregular boundary.

2Cqk2—25 to 44 inches; light yellowish brown (10YR 6/4) extremely gravelly sand, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and fine, few medium and coarse roots; many very fine interstitial pores; 5 percent stones, 15 percent cobbles, and 50 percent pebbles; secondary carbonates and silica segregated as thin (<0.5 millimeter) coats on 60 percent of the bottoms of rock fragments; slightly alkaline (pH 7.6); abrupt irregular boundary.

3R—44 inches; hard, vesicular basalt; silica and secondary carbonate coats lining few fractures.

Type location: Washoe County, Nevada; in the Black Hills about 3.5 miles south of Road 8A along the powerline in Long Valley; in unsectionized township

C horizons:

Hue—10YR or 2.5Y.

Value—5 through 7 dry; 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Texture—Stratified sandy loam, fine sandy loam, very fine sandy loam and silt loam with some pedons containing thin strata of clay loam and strata up to 12 inches thick of coarse sand, very coarse sand, fine sand or loamy sand.

Structure—Subangular blocky or platy, or they are single grain or massive.

Consistence—Soft or slightly hard, dry or it is loose.

Reaction—Moderately alkaline to very strongly alkaline.

Calcium carbonate equivalent—1 to 10 percent.

Other features—Few fine or medium, ground water-induced, relict concretions of calcium carbonate may be in any horizon; strongly contrasting lacustrine silts and clays occur below 40 inches in some pedons; salt crystals and relict redox concentrations are in some pedons in lower subhorizons.

Mcwatt series

The Mcwatt series consists of deep, somewhat excessively drained soils that formed in mixed alluvium over basalt. Mcwatt soils are on plateaus and beach terraces. Slopes are 4 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Sandy-skeletal, mixed, mesic Xeric Haplocambids

Typical pedon: Mcwatt extremely cobbly fine sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered with 15

T.42 N., R.20 E.; USGS Painted Point 7.5 minute topographic quadrangle; 41 degrees, 31 minutes, 59 seconds north latitude and 119 degrees, 42 minutes, 32 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry from mid-June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 53 degrees F.

Depth to sandy-skeletal material: 15 to 26 inches.

Depth to identifiable secondary carbonates: 17 to 29 inches.

Depth to bedrock: 40 to 60 inches to a lithic contact.

Particle-size control section:

Clay content—Averages 2 to 8 percent.

Rock fragments—60 to 75 percent, mainly cobbles and pebbles. Lithology of fragments are mainly volcanic rocks such as basalt.

A horizon:

Hue—10YR or 2.5Y.

Reaction—Neutral or slightly alkaline.

Bw horizons:

Value—6 or 7 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Extremely gravelly fine sandy loam, very gravelly sandy loam or extremely fine sandy loam.

Clay content—8 to 15 percent.

Reaction—Neutral or slightly alkaline.

2Cqk horizons:

Value—5 through 7 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Extremely cobbly loamy sand, extremely gravelly sand, or extremely gravelly loamy sand.

Clay content—0 to 5 percent.

Rock fragments—60 to 80 percent, mainly cobbles and pebbles.

Reaction—Slightly alkaline or moderately alkaline.

Effervescence—Noneffervescent matrix.

Identifiable secondary carbonates—Few to many less than 0.5 millimeter thick carbonate and silica coats on bottoms of rock fragments.

Calcium carbonate equivalent—1 to 3 percent.

Medved series

The Medved series consists of very shallow and shallow, well drained soils that formed in residuum derived from

metasedimentary rocks. Medved soils are on rock pediments. Slopes are 4 to 15 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Xeric Torriorthents

Typical pedon: Medved gravelly sandy loam in an area of map unit 465, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partly covered by approximately 20 percent pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; weak very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 20 percent metasedimentary pebbles; neutral (pH 7.0); clear wavy boundary.

A2—2 to 5 inches; light brownish gray (10YR 6/2) gravelly sandy loam, dark grayish brown (10YR 4/2) moist; moderate very fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; many very fine tubular pores; 30 percent 2 to 25 millimeter metasedimentary gravel; neutral (pH 7.0); abrupt wavy boundary.

C—5 to 9 inches; gravel; rock structure; many very fine, common fine roots in fractures; 90 percent 15 to 50 millimeter, angular metasedimentary gravel; cracks contain pale yellow (2.5Y 7/3) fine sandy loam, olive brown (2.5Y 4/3) moist; few 0.5 to 1 millimeter carbonate and silica coats in fractures; neutral (pH 7.0) in fine earth; abrupt wavy boundary.

R—9 inches; hard, fractured metasedimentary rock; vertical fractures are 4 to 10 inches apart; few fine through coarse roots in fractures; few 0.5 to 1 millimeter carbonate and silica coats in fractures.

Type location: Washoe County, Nevada; in an unsectioned area of approximately section 13, T.35 N., R.19 E.; 40 degrees, 54 minutes, 45.3 seconds north latitude and 119 degrees, 47 minutes, 51.8 seconds west longitude; NAD27; Rye Patch Canyon 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring, dry from late spring through fall; aridic soil moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees.

Depth to bedrock: 5 to 10 inches.

Epipedon: Ochric epipedon.

Profile reaction: Neutral or slightly alkaline.

Control section:

Clay content—8 to 15 percent in the upper part.

Rock fragments—Averages 45 to 60 percent with 15 to 30 percent in the upper part, 90 to 99 percent in the lower part. Lithology of fragments is metasedimentary.

Other features—Loamy part of the control section is thicker than the fragmental lower part.

A horizons:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3.

C horizon:

Rock fragments—90 to 99 percent metasedimentary gravel.

Menbo series

The Menbo series consists of moderately deep, well drained soils that formed in volcanic ash, residuum and colluvium derived from volcanic rocks. Menbo soils are on hills, mountains, plateaus, and ravines. Slopes are 4 to 75 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey-skeletal, smectitic, frigid Vitrandic Argixerolls

Typical pedon: Menbo very gravelly loam, in map unit 474, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate very fine and fine subangular blocky structure; slightly hard, friable, sticky and plastic; many very fine roots; many very fine tubular pores; 50 percent pebbles; slightly acid (pH 6.5); abrupt wavy boundary.

A2—2 to 7 inches; dark grayish brown (10YR 4/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, sticky and plastic; many very fine and fine and common medium roots; many very fine tubular pores; 30 percent pebbles; neutral (pH 6.6); clear wavy boundary.

2Bt1—7 to 14 inches; dark grayish brown (10YR 4/2) very gravelly clay loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, sticky

and plastic; many very fine, common fine and few medium roots; many very fine and common fine tubular pores; 40 percent pebbles; few thin clay films on faces of peds and in pores; neutral (pH 6.6); clear wavy boundary.

2Bt2—14 to 21 inches; brown (7.5YR 5/3) very gravelly clay, dark brown (7.5YR 3/3) moist; moderate fine and medium prismatic structure parting to strong medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common very fine and fine and few medium and coarse roots; common very fine tubular pores; many thin and moderately thick dark brown (7.5YR 4/2) clay films, dark brown (7.5YR 3/2) moist on faces of peds and in pores; 15 percent cobbles, 30 percent pebbles; neutral (pH 7.0); gradual smooth boundary.

2Bt3—21 to 34 inches; brown (7.5YR 5/4) very gravelly clay, dark brown (7.5YR 4/4) moist; weak fine and medium prismatic structure parting to strong medium and coarse angular blocky; very hard, firm, very sticky and very plastic; few very fine and fine roots; few very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; 15 percent cobbles, 30 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Cr—34 to 36 inches; hard tuff.

Type location: Washoe County, Nevada; about 1,600 feet east and 1,800 feet south of the northwest corner of section 23, T.46 N., R.19 E.; 41 degrees, 53 minutes, 45 seconds north latitude and 119 degrees, 49 minutes, 21 seconds west longitude.

Range in Characteristics:

Soil moisture: The soils are moist in winter and spring.

They are warmer than 41 degrees F from about March 15 to November 15. The soils are usually moist but are dry in all parts of the soil moisture control section for about 100 to 120 consecutive days following the summer solstice; Xeric moisture regime that borders on aridic.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 20 to 35 inches; includes the 2Bt horizon.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Particle-size control section:

Clay content—35 to 50 percent.

Rock fragments—Averages 35 to 60 percent, mainly cobbles. Lithology of fragments is volcanic rock such as basalt.

A horizons:

Value—4 or 5 dry.

Chroma—2 or 3, dry or moist.
 Volcanic glass content—5 to 15 percent.
 Oxalate A1 + 1/2 oxalate iron—0.2 to 0.4 percent.
 Rock fragments—0 to 25 percent cobbles and stones, 0 to 50 percent gravel.

2Bt horizon:

Hue—10YR or 7.5YR.
 Value—4 or 5 dry, 3 or 4 moist.
 Chroma—2 through 4, dry or moist.
 Texture—Very gravelly clay loam, very cobbly clay loam, very gravelly clay or very cobbly clay.
 Clay content—35 to 50 percent.
 Rock fragments—10 to 30 percent cobbles and stones, 20 to 40 percent gravel.
 Structure—Subangular blocky or angular blocky.
 Reaction—Neutral or slightly alkaline.
 Other features—Subhorizons of very gravelly clay are in some pedons.

Mosquet series

The Mosquet series consists of shallow, well drained soils that formed in residuum and colluvium derived from volcanic rocks with eolian additions of volcanic ash. Mosquet soils are on plateaus. Slopes are 4 to 15 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Clayey, smectitic Lithic Argicryolls

Typical pedon: Mosquet very gravelly fine sandy loam in an area of map unit 439, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with 30 percent gravel and 10 percent cobbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) very gravelly fine sandy loam, very dark brown (10YR 2/2) moist; massive; slightly hard, friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial and vesicular pores; 50 percent pebbles; neutral (pH 6.8); abrupt smooth boundary.
 A2—2 to 5 inches; dark grayish brown (10YR 4/2) gravelly sandy clay loam, very dark brown (10YR 2/2) moist; massive; slightly hard, friable, moderately sticky and moderately plastic, many very fine roots; many very fine interstitial pores; 20 percent pebbles; slightly acid (pH 6.4); abrupt smooth boundary.
 Bt1—5 to 9 inches; brown (10YR 4/3) gravelly clay loam, very dark grayish brown (10YR 3/2) moist; strong fine angular blocky structure; hard, friable, moderately

sticky and very plastic; common very fine roots; many very fine interstitial, and few fine tubular pores; many faint clay bridges between sand grains and few distinct clay films on faces of peds; 25 percent pebbles; slightly acid (pH 6.4); abrupt wavy boundary.

Bt2—9 to 14 inches; brown (10YR 4/3) very gravelly clay, dark yellowish brown (10YR 3/4) moist; strong fine angular blocky structure; very hard, firm, very sticky and very plastic; few very fine roots; common very fine tubular pores; many distinct and few prominent dark grayish brown (10YR 4/2) clay films on faces of peds and lining pores; 40 percent pebbles; slightly acid (pH 6.4); abrupt wavy boundary.

R—14 inches; basalt.

Type location: Washoe County, Nevada; about 20 miles south of Vya and 0.2 mile northwest of Devine Peak; in an unsectionized area approximately at the center of section 6, T.39 N., R.19 E.; 41 degrees, 18 minutes, 45.5 seconds north latitude and 119 degrees, 53 minutes, 34.5 seconds west longitude, NAD27; Hays Canyon USGS 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry early July through September; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 43 to 47 degrees F.

Mean summer soil temperature: 56 to 59 degrees F.

Mollic epipedon thickness: 7 to 14 inches, includes the Bt1 horizon or in some pedons both the Bt1 and Bt2 horizons.

Depth to base of argillic horizon: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches to a lithic contact.

Particle-size control section:

Clay content—Averages 35 to 45 percent.

Rock fragments—Averages 25 to 35 percent pebbles and cobbles; Lithology of fragments are volcanic rocks such as basalt, tuff, andesite, or rhyolite.

Reaction—Slightly acid or neutral.

Other features—Cracks in the bedrock contain Bt horizon material. Some of the upper parts of bedrock are detached in some pedons but are not significantly displaced. The bedrock surface is weakly to strongly weathered in the upper 2 inches in some pedons.

A horizon:

Value—4 through 6 dry (less than 5.5 when the surface 7 inches are mixed), 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Clay content—10 to 20 percent.
 Organic matter content—2 or 3 percent.
 Structure—Weak thin to thick platy, weak or moderate, fine or medium granular or subangular blocky or it is massive.

Bt horizons:

Hue—5YR through 10YR.
 Value—3 through 5, dry or moist.
 Chroma—3 or 4, dry or moist.
 Texture—Clay or clay loam.
 Clay content—35 to 45 percent.
 Rock fragments—Averages 25 to 35 percent, mainly pebbles of volcanic origin; lower subhorizons have up to 50 percent.
 Organic matter content—0.5 to 2 percent.
 Structure—Weak to strong angular or subangular blocky.

Nellspring series

Nellspring series consists of moderately deep to duripan, well drained soils formed in alluvium from volcanic rocks. The Nellspring soils are on fan piedmont remnants. Slopes are 2 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine, smectitic, mesic Vertic Argidurids

Typical pedon: Nellspring very gravelly fine sandy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered with about 10 percent cobbles and 55 percent pebbles.

A—0 to 3 inches; light brownish gray (10YR 6/2) very gravelly fine sandy loam, dark grayish brown (10YR 4/2) moist; strong thick platy structure; hard, friable, nonsticky and nonplastic; few very fine roots; many very fine and fine vesicular pores; 5 percent cobbles and 45 percent pebbles; neutral (pH 7.2); abrupt wavy boundary.

Btss1—3 to 12 inches; light brown (7.5YR 6/4) clay, dark reddish brown (5YR 3/4) moist; strong fine prismatic structure parting to strong fine angular blocky; very hard, friable, very sticky and very plastic; common very fine and few medium sized roots; common very fine tubular pores; many moderately thick clay films on faces of peds and lining pores; vertical cracks 8 millimeters to 1 centimeter wide and 3 to 4 inches apart extending to a depth of 3 to 12 inches; common

slickensides; few wedge-shaped aggregates tilted 30 degrees from horizontal; neutral (pH 7.3); clear wavy boundary.

Btss2—12 to 18 inches; reddish brown (5YR 5/4) clay, yellowish red (5YR 4/6) moist; strong fine prismatic structure parting to strong fine angular blocky; very hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; many thin and moderately thick clay films on faces of peds and lining pores; vertical cracks 8 millimeters to 1 centimeter wide and 4 to 6 inches apart are present; few slickensides; few wedge-shaped aggregates tilted 30 degrees from horizontal; slightly alkaline (pH 7.5); clear wavy boundary.

Btk—18 to 35 inches; light brown (7.5YR 6/4) clay loam, brown (7.5YR 4/4) moist; strong fine and medium angular blocky structure; very hard, friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; many moderately thick and thick clay films on faces of peds and lining pores; common fine soft filaments of lime; moderately alkaline (pH 8.0); abrupt wavy boundary.

Bqkm1—35 to 41 inches; strongly silica and lime cemented duripan; strong thin and medium platy structure; extremely hard, extremely firm; alternating medium horizontal plates and discontinuous thin indurated laminae cap; horizontal root mat at upper boundary with many very fine, fine and few medium roots; 5 percent cobbles, 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.3); gradual smooth boundary.

Bqkm2—41 to 60 inches; strongly silica and lime cemented duripan; alternating layers of strongly and weakly cemented material; extremely hard and hard, extremely firm and firm; 5 percent cobbles, 15 percent pebbles; violently effervescent; moderately alkaline (pH 8.3).

Type location: Washoe County, Nevada. About 5 miles northeast of Nellie Spring Mountain and about 1 mile east of Grassy Camp; about 2,100 feet south and 1,300 feet west of the northeast corner of section 19, T.41 N., R.22 E.; 41 degrees, 27 minutes, 05 seconds north latitude and 119 degrees, 32 minutes, 28 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from July through October. Aridic moisture regime that borders on Xeric.

Soil temperature: 47 to 51 degrees F.

Depth to duripan: 20 to 40 inches

Control section:

- Clay content—40 to 60 percent.
- Rock fragments—Less than 15 percent mainly volcanic pebbles..

A horizon:

- Value—6 or 7 dry, 3 or 4 moist.
- Chroma—2 or 3

Btss and Btk horizons:

- Hue—10YR, 7.5YR or 5YR.
- Value—4 through 6 dry, 3 or 4 moist
- Chroma—4 through 6
- Clay content—50 to 60 percent in the upper part; 35 to 50 percent in the lower part; when mixed, 40 to 60 percent.
- Texture—Clay or clay loam
- Rock fragments—Less than 15 percent.
- Consistence—Hard, extremely hard dry, friable to very firm moist.
- Reaction—Neutral or slightly acid in the upper part, slightly alkaline or moderately alkaline in the lower part.
- Effervescence—Noneffervescent in Bt horizons; strongly effervescent or violently effervescent in the Btk horizon, with few or common fine or medium soft filaments or masses of lime in the lower part.
- Calcium carbonates equivalent—1 to 3 percent in the Btk horizon.
- Other features—Vertical cracks 5 to 25 millimeters wide, few to common slickensides and wedge-shaped aggregates. A clay increase of 35 to 50 percent occurs within a vertical distance of 1 inch between the A and Bt horizons.

Bqkm horizons:

- Rupture resistance—Strongly or moderately cemented with layers of weakly cemented material.

Nevadash series

The Nevadash series consists of very deep, well drained soils formed in mixed alluvium and volcanic ash. Nevadash soils are on fan aprons and basins. Slopes are 0 to 5 percent. The mean annual precipitation is about 9 inches, and the mean annual temperature is about 48 degrees F.

Taxonomic class: Ashy, glassy, mesic Durinodic Xeric Haplargids

Typical pedon: Nevadash gravelly ashy sandy loam in an area of map unit 473, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 2 inches; brown (10YR 5/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; strong very thick platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine and fine interstitial pores; 20 percent gravel; slightly alkaline (pH 7.4); abrupt wavy boundary.

BAt—2 to 5 inches; yellowish brown (10YR 5/4) ashy sandy clay loam, dark brown (10YR 3/3) moist; moderate thin platy structure; hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine interstitial pores; 5 percent gravel; common distinct clay films bridging mineral grains; slightly alkaline (pH 7.6); clear wavy boundary.

Bt1—5 to 11 inches; light yellowish brown (10YR 6/4) ashy sandy clay loam, brown (10YR 4/3) moist; strong medium and coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine and few fine and medium roots; common very fine tubular pores; 10 percent gravel; many distinct clay films on faces of peds and lining pores; slightly alkaline (pH 7.8); clear wavy boundary.

Bt2—11 to 17 inches; light yellowish brown (2.5Y 6/4) ashy sandy clay loam, olive brown (2.5Y 4/3) moist; moderate medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine and few fine tubular pores; 10 percent gravel; many distinct clay films on faces of peds and lining pores; moderately alkaline (pH 8.0); clear wavy boundary.

Bq—17 to 28 inches; light yellowish brown (2.5Y 6/3) ashy sandy loam, olive brown (2.5Y 4/3) moist; massive; slightly hard and hard, very friable and firm, slightly sticky and slightly plastic; few fine and very fine roots; few very fine interstitial pores; 10 percent gravel; 25 percent 5 to 20 millimeter, hard, firm durinodes; many silica coats bridging mineral grains appear as glassy luster; moderately alkaline (pH 8.2); clear wavy boundary.

Bqk1—28 to 44 inches; pale yellow (2.5Y 7/3) ashy sandy loam, olive brown (2.5Y 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few fine and very fine roots; many very fine and fine interstitial pores; 10 percent gravel; 20 percent 15 to 25 millimeter, hard, firm durinodes; 30 percent discontinuous weak silica cementation; 5 percent

medium and coarse, white (10YR 8/1) soft masses of lime; strongly effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

Bqk2—44 to 68 inches; light gray (2.5Y 7/2) gravelly ashy sandy loam, olive brown (2.5Y 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine and fine interstitial pores; 10 percent 2 to 5 millimeter gravel; 15% 15 to 25 millimeter hard, firm durinodes; 5% 0.5 millimeter carbonate coats on underside of some rock fragments; 10 percent 5 to 30 millimeter gravel; strongly effervescent; moderately alkaline (pH 8.4).

Type location: Washoe County, Nevada; unsectionized; section 27, T.36 N., R.19 E.; on the south side of Duck Flat about 1.3 miles west of Buckhorn Road; 40 degrees, 58 minutes, 21.86 seconds north latitude and 119 degrees, 50 minutes, 14.71 seconds west longitude, NAD27; Rye Patch Canyon 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring; dry June through October. Aridic soil moisture regime bordering on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to base of the Bt horizon: 12 to 24 inches.

Depth to carbonates: 15 to 36 inches.

Other features: The epipedon is too thin or has dry value too high to qualify as mollic.

Control section:

Clay content—20 to 27 percent.

Mineralogy—40 to 60 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3.

Bt horizon:

Hue—2.5Y, 10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 through 4.

Structure—Moderate or strong, fine through coarse subangular blocky or angular blocky.

Rock fragments—5 to 10 percent pebbles.

Bq and Bqk horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—3 or 4.

Reaction—Moderately alkaline through strongly alkaline.

Calcium Carbonate—None in Bq horizons; 1 to 5 percent fine through coarse soft masses and/or few thin coats on undersides of rock fragments in Bqk horizons.

Other features—20 to 70 percent hard or very hard, firm or very firm durinodes with few very thin (< 2 mm thick) discontinuous and randomly oriented silica laminae. C horizon below 60 inches in some pedons.

Newlands series

The Newlands series consists of deep, well drained soils that formed in residuum and local colluvium from basic rocks. Newlands soils are on plateaus. Slopes are 4 to 30 percent. The mean annual precipitation is about 14 inches and mean annual air temperature is about 44 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive Argic Cryoborolls

Typical pedon: Newlands gravelly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with 1 percent stones, 5 percent cobbles, and 15 percent pebbles.

A1—0 to 2 inches; brown (10YR 5/3) gravelly loam, very dark brown (10YR 2/2) moist; moderate very fine and fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 1 percent stones, 5 percent cobbles and 15 percent pebbles; slightly acid (pH 6.2); clear wavy boundary.

A2—2 to 6 inches; grayish brown (10YR 5/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and and common fine roots; many very fine tubular pores; 5 percent cobbles and 15 percent pebbles; slightly acid (pH 6.4); clear smooth boundary.

Bt1—6 to 12 inches; brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, sticky and plastic; many very fine and common fine roots; many very fine tubular pores; few thin clay films on faces of peds and in pores; 10 percent pebbles; slightly acid (pH 6.4); clear wavy boundary.

Bt2—12 to 27 inches; yellowish brown (10YR 5/4) gravelly clay loam, dark brown (10YR 3/3) moist; strong fine and medium subangular blocky structure; hard, very friable, sticky and plastic; many very fine, common fine and few medium and coarse roots; many very fine tubular pores; many thin clay films on faces of peds and in pores; 20 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt3—27 to 36 inches; light brown (7.5YR 6/4) gravelly clay loam, brown (7.5YR 4/4) moist; moderate coarse and medium subangular blocky structure; hard, very friable, sticky and plastic; common very fine and few fine roots; many very fine tubular pores; common moderately thick clay films on faces of peds and in pores; 20 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bc1—36 to 41 inches; light brown (7.5YR 6/4) gravelly clay loam, brown (7.5YR 4/4) moist; moderate coarse subangular blocky structure; hard, very friable, sticky and plastic; few very fine and fine roots; many very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; 20 percent pebbles and 5 percent cobbles; neutral (pH 7.0); abrupt irregular boundary.

R—41 to 45 inches; hard andesite with common moderately thick clay films in some fractures in upper 2 inches.

Type location: Washoe County, Nevada; about 200 feet west and 900 feet south of the northeast corner of section 17, T.46 N., R.19 E.; 41 degrees, 54 minutes, 48 seconds north latitude and 119 degrees, 52 minutes, 04 seconds west longitude.

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring, dry in late summer and fall.

Soil temperature: 41 to 45 degrees F.

Average summer soil temperature: 56 to 59 degrees F.

Thickness of mollic: 12 to 16 inches and includes part of the argillic.

Depth to bedrock: 40 to 60 inches.

Control section:

Clay content—27 to 35 percent.

Reaction—Slightly acid or neutral.

A horizons:

Hue—10YR or .5YR.

Value—4 or 5 dry, 3 or 4 moist.

Chroma—1 through 3, chroma of 1 occurs only in the A1 horizon.

Bt horizons:

Hue—10YR, 7.5YR or 5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4.

Texture—Clay loam or sandy clay loam modified by 5 to 35 percent pebbles and a few cobbles.

Structure—Moderate or strong, fine to coarse subangular blocky or angular blocky or weak or moderate fine or medium prismatic.

Ninemile series

The Ninemile series consists of shallow, well drained soils that formed in residuum and colluvium derived from volcanic rocks. Ninemile soils are on plateaus. Slopes are 2 to 30 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Clayey, smectitic, frigid Lithic Argixerolls

Typical pedon: Ninemile extremely cobbly loam in an area of map unit 478, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with 36 percent cobbles 20 percent pebbles.

A—0 to 2 inches; brown (10YR 4/3) extremely cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate fine platy structure; slightly hard, friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine interstitial pores; 35 percent pebbles and 30 percent cobbles; neutral (pH 6.8); abrupt smooth boundary.

Bt1—2 to 4 inches; brown (7.5YR 4/2) clay, dark brown (7.5YR 3/2) moist; moderate very fine subangular blocky structure; hard, friable, very sticky and very plastic; many very fine and fine, and few medium roots; many very fine interstitial pores; continuous faint clay films on faces of peds; neutral (pH 6.7); abrupt broken boundary.

Bt2—4 to 8 inches; dark grayish brown (10YR 4/2) clay, very dark grayish brown (10YR 3/2) moist; moderate fine prismatic and strong fine angular blocky structure; extremely hard, very firm, very sticky and very plastic; many very fine and fine roots; many fine interstitial pores; continuous pressure faces on peds; neutral (pH 6.7); abrupt smooth boundary.

Bt3—8 to 14 inches; brown (7.5YR 4/4) clay, dark brown (7.5YR 3/4) moist; strong fine and medium subangular blocky structure; extremely hard, extremely firm, very sticky and very plastic; few very

fine and fine roots; very few tubular pores; continuous pressure faces on peds; neutral (pH 6.7); abrupt irregular boundary.

R—14 inches; basalt; weathered in upper 5 inches.

Type location: Washoe County, Nevada; about 500 feet southeast of Pilgrim Lake near the California-Nevada state line; about 300 feet south and 800 feet east of the northwest corner of section 32, T.35 N., R.18 E.; USGS Hole in the Ground 7.5 minute topographic quadrangle; 40 degrees, 52 minutes, 18 seconds north latitude and 119 degrees, 59 minutes, 43 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist during the winter and spring, mainly dry from late June through early October;

Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 7 to 18 inches; includes part or all of the argillic horizon.

Depth to bedrock: 14 to 20 inches to a lithic contact; where bedrock is less than 15 inches deep, the upper 1 to 5 inches of the bedrock is weathered.

Particle-size control section:

Clay content—Averages 40 to 60 percent.

Rock fragments—0 to 35 percent, mainly pebbles or cobbles. Lithology of fragments are volcanic rocks such as andesite, basalt, rhyolite, or tuff.

Other features—An abrupt horizon boundary is normally present between the A horizon and the Bt1 horizon accompanied by an abrupt increase in clay content of at least 15 percent.

A horizon:

Hue—7.5YR or 10YR.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—1 through 3, dry or moist.

Reaction—Slightly acid through moderately alkaline.

Organic matter content—1 to 4 percent.

Other features—The upper 1 or 2 inches of some pedons have a dry value of 6.

Bt horizons:

Hue—5YR through 10YR.

Value—3 through 6 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist; lower subhorizons have chroma of 6 in some pedons.

Clay content—35 to 60 percent.

Texture—Clay, gravelly clay, cobbly clay loam, cobbly clay, or clay loam.

Rock fragments—0 to 30 percent pebbles or cobbles.

Structure—Moderate or strong subangular or angular blocky or prismatic. Bt3 horizons may be massive in some pedons.

Consistence—Hard to extremely hard dry.

Reaction—Neutral through moderately alkaline.

Other features—Some pedons are slightly hard dry, friable to firm moist; moderately sticky and moderately plastic wet in the Bt1 horizon.

Nitpac series

The Nitpac series consists of moderately deep to a duripan, well drained soils that formed in alluvium derived from volcanic rocks. Nitpac soils are on plateaus. Slopes are 2 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine, smectitic, mesic Vertic Durixerolls

Typical pedon: Nitpac very cobbly loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted). The soil surface is partially covered with 1 percent stones, 15 percent cobbles, and 20 percent pebbles.

A1—0 to 3 inches; brown (10YR 5/3) very cobbly loam, very dark grayish brown (10YR 3/2) moist; strong thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular pores; 5 percent stones, 15 percent cobbles, and 20 percent pebbles; neutral (pH 6.8); abrupt wavy boundary

A2—3 to 8 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate medium and thick platy structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; many very fine vesicular and interstitial pores; 10 percent cobbles and 30 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Btss1—8 to 14 inches; brown (7.5YR 5/3) clay, dark brown (7.5YR 3/3) moist; moderate medium prismatic structure parting to strong medium angular blocky; very hard, friable, very sticky and very plastic; common very fine and few fine, medium and coarse roots; common very fine tubular pores; vertical cracks 0.5 to 1 centimeter wide and 1 to 2 inches apart extend through horizon; few slickensides; few wedge-shaped peds tilted 30 degrees from the horizontal; many faint and distinct clay films on faces of peds

and lining pores; 1 percent cobbles and 10 percent pebbles; neutral (pH 7.2); abrupt wavy boundary.

Btss2—14 to 21 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; strong fine and medium prismatic structure parting to strong medium and coarse angular blocky; very hard, firm, very sticky and very plastic; common very fine and few fine roots; common very fine tubular pores; vertical cracks 0.5 to 1.5 centimeters wide and 2 to 3 inches apart extend through horizon; few slickensides; few wedge-shaped peds tilted 30 degrees from the horizontal; many faint and distinct clay films on faces of peds and lining pores; 10 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt—21 to 26 inches; light yellowish brown (10YR 6/4) gravelly clay loam, brown (7.5YR 5/4) moist; strong fine and medium angular blocky structure; very hard, friable, very sticky and very plastic; few very fine roots; common very fine and few fine tubular pores; many faint and distinct clay films on faces of peds and lining pores; 20 percent pebbles; slightly alkaline (pH 7.6); abrupt wavy boundary.

Bqm—26 to 34 inches; reddish yellow (7.5YR 7/6) strongly silica-cemented duripan, reddish yellow (7.5YR 6/8) moist; strong medium and thick platy structure; extremely hard, extremely firm; many very fine, fine, and few medium roots matted at upper boundary of pan; common very pale brown (10YR 7/4) laminae of secondary silica on upper surfaces of plates, yellowish brown (10YR 5/4) moist; clear smooth boundary.

Cr—34 inches; fractured and weathered basalt; secondary silica coats in fractures in the bedrock.

Type location: Washoe County, Nevada; about 7.5 miles south of Vya and 1.5 miles northwest of Button Brush Flat; near the southeast corner of section 9, T.41 N., R.19 E.; USGS Boulder Lake 7.5 minute topographic quadrangle; 41 degrees, 28 minutes, 58 seconds north latitude and 119 degrees, 51 minutes, 23 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from mid-June through October; aridic moisture regime that borders on xeric.

Soil temperature: 47 to 51 degrees F.

Thickness of mollic epipedon: 10 to 20 inches, includes the upper part of the argillic horizon.

Depth to thin, strongly-cemented duripan: 20 to 40 inches.

Depth to bedrock: 24 to 40 inches to a paralithic contact. The paralithic materials are weathered basalt or andesite.

Control section:

Clay content—Averages 40 to 60 percent.

Rock fragments—Averages 10 to 15 percent, mainly pebbles. Lithology of fragments are volcanic rocks such as basalt or andesite.

Reaction—Neutral or slightly alkaline.

A horizons:

Value—5 or 6 dry, 2 or 3 moist. A dry value of 6 is only in the thin A1 horizon and the upper 7 inches when mixed has a dry value of 5.

Chroma—2 or 3, dry or moist.

Clay content—15 to 25 percent.

Organic matter content—1 or 2 percent.

Btss horizons:

Hue—10YR or 7.5YR

Value—4 through 6 dry, 3 through 5 moist.

Chroma—2 through 6.

Clay content—45 to 60 percent.

Organic matter content—0.5 to 1 percent.

Consistence—Hard, extremely hard dry, very friable to very firm moist.

Vertic features—Vertical cracks 0.5 to 3 centimeters wide; few to common slickensides and wedge-shaped peds.

Other features—A clay increase of 25 to 35 percent occurs within a vertical distance of 1 inch between the A2 and Btss1 horizons.

Bt horizon:

Hue—10YR or 7.5YR

Value—4 through 6 dry, 3 through 5 moist.

Chroma—4 or 6, dry or moist.

Texture—Gravelly clay loam or gravelly clay.

Rock fragments—15 to 35 percent, mainly pebbles.

Clay content—35 to 45 percent.

Organic matter content—0.5 to 1 percent.

Consistence—Very hard dry, very friable or firm moist.

Bqm horizons:

Rupture resistance—Strongly cemented or moderately cemented.

Nomazu series

The Nomazu series consists of very deep, well drained soils that formed in volcanic ash and alluvium from mixed volcanic and sedimentary materials. Nomazu soils

are on basin floor remnants. Slopes are 0 to 4 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Ashy, glassy, mesic Durinodic Haplocalcids

Typical pedon: Nomazu ashy very fine sandy loam in an area of map unit 484, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; light gray (10YR 7/2) ashy very fine sandy loam, brown (10YR 4/3) moist; strong thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; few very fine and common fine tubular pores; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

A2—2 to 7 inches; light gray (10YR 7/2) ashy very fine sandy loam, brown (10YR 5/3) moist; strong very thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine vesicular pores; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqk1—7 to 10 inches; light gray (10YR 7/2) ashy very fine sandy loam, brown (10YR 5/3) moist; strong fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine and fine tubular pores; 15 percent 10 to 30 millimeter, hard durinodes; 2 percent 1 to 2 millimeter, soft masses of lime; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqk2—10 to 13 inches; very pale brown (10YR 7/3) ashy fine sandy loam, dark yellowish brown (10YR 4/4) moist; strong medium and coarse subangular blocky structure; slightly hard and hard, very friable, moderately sticky and slightly plastic; few very fine through medium roots; common very fine and few fine tubular pores; 20 percent 5 to 30 millimeter, hard durinodes; 5 percent 1 to 5 millimeter, soft masses of lime; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bqk3—13 to 29 inches; pale yellow (2.5Y 8/2) ashy very fine sandy loam, light yellowish brown (2.5Y 6/3) moist; moderate coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine, common fine, few medium and coarse roots; common very fine tubular pores; 40 percent 10 to 40 millimeter, hard durinodes; 10 percent 0.5 to 1.0 millimeter, soft masses of lime; violently effervescent; strongly alkaline (pH 9.0); clear wavy boundary.

Bqk4—29 to 38 inches; light gray (2.5Y 7/2) ashy fine sandy loam, light olive brown (2.5Y 5/3) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, common fine and medium, few coarse roots; common very fine tubular pores; 20 percent 5 to 20 millimeter, hard durinodes; 3 percent 0.5 millimeter, soft masses of lime; violently effervescent; moderately alkaline (pH 8.4); clear wavy boundary.

2Bqky1—38 to 48 inches; pale yellow (2.5Y 8/2) very paragravelly ashy fine sandy loam, light olive brown (2.5Y 5/3) moist; moderate thick platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; few very fine tubular pores; 35 percent paragravel; 20 percent weakly silica-cemented masses; 2 percent 0.5 millimeter, soft masses of lime; few 1 to 2 millimeter, soft masses of gypsum; violently effervescent; moderately alkaline (pH 8.0); clear irregular boundary.

2Bqky2—48 to 65 inches; pale yellow (5Y 8/2) very paragravelly ashy fine sandy loam, light olive brown (2.5Y 5/3) moist; strong very thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; few very fine tubular pores; 45 percent paragravel; 5 percent weakly silica-cemented masses; 1 percent 0.5 millimeter, soft masses of lime; few 1 to 2 millimeter, masses of gypsum; 2 percent very dark gray (10YR 3/1) moist, iron-manganese coats; violently effervescent; moderately alkaline (pH 8.0).

Type location: Washoe County, Nevada; on the northeast side of Duck Flat; about 1,900 feet east and 1,800 feet south of the northwest corner of section 16, T.36 N., R.20 E.; 41 degrees, 00 minutes, 7.54 seconds north latitude and 119 degrees, 44 minutes, 32.68 seconds west longitude; NAD27; Lost Creek Pass 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry late May through November. Aridic soil moisture regime.

Soil temperature: 47 to 53 degrees F.

Depth to durinodes: 5 to 15 inches.

Mineralogy: 60 to 80 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

Control section:

Clay content—10 to 15 percent.

Rock fragments—0 to 5 percent pebbles.

Salt and sodium—These soils are normally slightly salt and sodium affected throughout the profile,

but some pedons are moderately or strongly affected in the upper horizons.

unless otherwise noted.) The soil surface is partly covered with 10 percent obsidian gravel.

A horizon:

Hue—10YR or 2.5Y.
Value—6 or 7 dry, 4 or 5 moist.
Chroma—2 through 4.
Reaction—Moderately alkaline to strongly alkaline.
Effervescence—Slightly or strongly effervescent.
Calcium carbonate equivalent—1 to 5 percent

A1—0 to 2 inches, light gray (2.5Y 7/2) ashy sandy loam, dark grayish brown (2.5Y 4/2) moist; strong thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine to medium vesicular pores; violently effervescent; very strongly alkaline (pH 9.2); clear wavy boundary.

Bqk horizons:

Hue—10YR. 2.5Y, 5Y.
Value—6 through 8 dry, 4 through 7 moist.
Chroma—3 or 4.
Texture—Ashy fine sandy loam, ashy very fine sandy loam, or ashy sandy loam, but is dominantly ashy fine sandy loam.
Structure—Platy or subangular blocky.
Reaction—Strongly alkaline to very strongly alkaline.
Calcium carbonate equivalent—10 to 25 percent, but always exceeds 15 percent in some subhorizon more than 6 inches thick.
Other features—20 to 50 percent durinodes, thin subhorizons in the upper part have 10 to 20 percent durinodes in most pedons.

A2—2 to 5 inches, pale yellow (2.5Y 8/2) ashy sandy loam, grayish brown (2.5Y 5/2) moist; moderate very thick platy structure; hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine and common fine vesicular pores; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bw—5 to 11 inches, light gray (10YR 7/2) ashy sandy loam, brown (10YR 5/3) moist; moderate fine and medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; violently effervescent; strongly alkaline (pH 9.0); clear wavy boundary.

Bkn—11 to 19 inches, pale yellow (2.5Y 8/2) ashy sandy loam, light yellowish brown (2.5Y 6/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; 10 percent paragravel; few 0.5 to 1 millimeter, soft filaments of lime; violently effervescent; very strongly alkaline (pH 9.2); abrupt wavy boundary.

Cr—19 to 29 inches, light gray (2.5Y 7/1) and pale yellow (2.5Y 7/3) tuff, gray (2.5Y 5/1) and light olive brown (2.5Y 5/3) moist; few thin lime coats in horizontal fractures; few pockets of very fine roots in horizontal fractures.

2Bqky horizons:

Value—7 or 8 dry, 4 or 5 moist.
Chroma—2 through 4.
Texture—Ashy fine sandy loam or ashy very fine sandy loam.
Rock fragments—0 to 45 percent paragravel of ashy lacustrine material.
Calcium carbonate equivalent—5 to 25 percent, decreasing with depth.
Gypsum content—Few (<1 percent) fine soft masses or filaments.

Nopeg series

The soils of the Nopeg series are shallow, well drained soils formed in volcanic ash and alluvium from volcanic rocks over residuum from soft tuff. Nopeg soils are on rock pediments. Slopes range from 0 to 2 percent. The mean annual precipitation is about 7 inches and the mean annual air temperature is about 45 F.

Taxonomic class: Ashy, glassy, mesic, shallow Sodic Haplocambids

Typical pedon: Nopeg ashy sandy loam in an area of map unit 486, rangeland. (Colors are for dry soil

Type location: Washoe County, Nevada; in an unsectionized area; about 900 feet south and 200 feet west of the apparent NE corner of section 8, T.36 N., R.19 E.; 41 degrees, 01 minute, 20.15 seconds north latitude and 119 degrees, 51 minutes, 41.68 seconds west longitude; NAD27; Juniper Springs, NV 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, intermittently moist in late winter and spring. Aridic soil moisture regime.

Mean annual soil temperature: 47 to 50 F.

Depth to a paralithic contact: 14 to 20 inches.

Mineralogy: 60 to 90 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

Profile reaction: Moderately alkaline to very strongly alkaline.

Control section:

Clay content—12 to 18 percent.

Rock fragments—0 to 10 percent volcanic gravel; 0 to 30 percent paragravel, usually less than 10 percent in all horizons except immediately above the tuff.

A horizon:

Value—6 through 8 dry.

Chroma—2 or 3.

Sodicity—SAR is 5 to 13.

Bw horizons:

Hue—10YR or 2.5Y.

Value—6 or 7, dry; 4 or 5, moist.

Chroma—2 through 4.

Clay content—12 to 18 percent.

Structure—Weak or moderate subangular blocky.

Reaction—Strongly alkaline or very strongly alkaline.

Sodicity—SAR is 13 to 30.

Bkn horizons:

Hue—2.5Y or 5Y.

Value—7 or 8, dry; 5 or 6, moist.

Chroma—2 through 4.

Texture—Ashy sandy loam.

Clay content—12 to 18 percent.

Reaction—Very strongly alkaline.

Sodicity—SAR is 13 to 60.

Nosavvy series

The Nosavvy series consists of very deep, well drained soils formed in volcanic ash and colluvium from volcanic rocks. Nosavvy soils are on plateaus. Slopes are 30 to 50 percent. The mean annual precipitation is about 9 inches, and the mean annual temperature is about 48 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitrixerandic Haplargids

Typical pedon: Nosavvy very cobbly ashy loam in an area of map unit 554, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; brown (10YR 5/3) very cobbly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; soft, very friable,

slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 20 percent volcanic gravel and 20 percent cobbles; neutral (pH 6.6); clear wavy boundary.

A2—2 to 6 inches; brown (10YR 5/3) gravelly ashy loam, dark brown (10YR 3/3) moist; weak very fine subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; many very fine and fine roots; common fine and many very fine tubular pores; 20 percent volcanic gravel; neutral (pH 6.8); clear wavy boundary.

Bt1—6 to 13 inches; brown (10YR 5/3) cobbly ashy sandy clay loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine roots; common fine, medium, and many very fine tubular pores; common distinct clay films on faces of peds and lining pores; 10 percent volcanic gravel and 20 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt2—13 to 29 inches; pale brown (10YR 6/3) gravelly ashy sandy clay loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine roots; few fine, medium, and many very fine tubular pores; common distinct clay films and few faint on faces of peds and lining pores; 20 percent volcanic gravel; neutral (pH 7.2); abrupt wavy boundary.

C—29 to 36 inches; pale brown (10YR 6/3) very cobbly ashy sandy loam, brown (10YR 4/3) moist; weak coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; few very fine and fine tubular pores; 20 percent volcanic gravel and 30 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

Ck1—36 to 48 inches; light gray (2.5Y 7/2) paragravelly ashy sandy loam, olive brown (2.5Y 4/3) moist; weak coarse subangular blocky structure; hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; 30 percent volcanic pyroclastic paragravel, 5 percent volcanic gravel; 2 percent 0.5 millimeter carbonate coats on rock fragments; strongly alkaline (pH 8.6); clear wavy boundary.

Ck2—48 to 63 inches; pale yellow (2.5Y 7/3) paragravelly ashy sandy loam, olive brown (2.5Y 4/3) moist; weak very coarse subangular blocky structure; slightly hard, very friable, nonsticky and nonplastic; few very fine roots; many very fine tubular pores; 25 percent volcanic pyroclastic paragravel, 5 percent volcanic gravel; 3 percent 0.5 millimeter carbonate coats on rock fragments; strongly effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Type location: Washoe County, Nevada; unsectionized area; projected section 27, T.36 N., R.19 E.; on the south side of Duck Flat about 1.5 miles west of Buckhorn Road and 0.3 mile south of Duck Lake Road; latitude 40 degrees, 58 minutes, 9.8 seconds north and longitude 119 degrees, 50 minutes, 25.9 seconds west; NAD27; Rye Patch Canyon 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring; dry June through October. Aridic bordering xeric soil moisture regime.

Soil temperature: 47 to 52 degrees F.

Depth to base of the Bt horizons: 20 to 30 inches.

Control section:

Clay content—20 to 25 percent.

Rock fragments—15 to 25 percent volcanic gravel and cobbles.

Mineralogy—40 to 60 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

A horizon:

Value—5 or 6 dry, 3 or 4 moist. The average dry value of the upper 7 inches is greater than 5.5.

Chroma—2 or 3.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—10YR or 2.5Y.

Value—3 or 4 moist.

Chroma—2 through 4.

Structure—Fine through coarse subangular blocky.

Rock fragments—15 to 30 percent volcanic gravel and cobbles.

C horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4.

Rock fragments—35 to 55 percent volcanic gravel and cobbles.

Reaction—Slightly alkaline through strongly alkaline.

Ck horizon:

Hue—10YR or 2.5Y.

Value—5 through 7 dry, 4 through 6 moist.

Chroma—2 through 4.

Rock fragments—15 to 35 percent tuffaceous paragravel, 0 to 15 percent volcanic gravel and cobbles.

Reaction—Slightly alkaline through strongly alkaline.

Other features—Few to common carbonate coats on rocks.

Nowack series

The Nowack series consists of deep, well drained soils that formed in volcanic ash and colluvium over residuum derived from andesite or tuff. Nowack soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 30 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid Alfic Humic Vitrixerands

Typical pedon: Nowack very gravelly ashy loam in an area of map unit 487, forestland. (Colors are for dry soil unless otherwise noted).

Oe—0 to 1 inch; dark grayish brown (10YR 4/2) gravelly moderately decomposed plant material, very dark brown (10YR 2/2) moist; weak fine granular structure; soft, very friable, nonsticky, nonplastic; common very fine roots; many very fine interstitial pores; 15 percent pebbles; slightly acid, (pH 6.1); clear smooth boundary.

A—1 to 10 inches; dark grayish brown (10YR 4/2) very gravelly ashy loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; many very fine and fine roots and common medium and coarse roots; many very fine interstitial pores; 5 percent cobbles and 35 percent pebbles; slightly acid, (pH 6.1); clear wavy boundary.

Bt1—10 to 18 inches; brown (10YR 5/3) very gravelly ashy loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky, nonplastic; many very fine and fine roots and common medium and coarse roots; common very fine interstitial and tubular pores; 10 percent faint clay bridges between sand grains; 10 percent paragravel, 10 percent cobbles and 35 percent pebbles; slightly acid, (pH 6.1); clear wavy boundary.

Bt2—18 to 30 inches; yellowish brown (10YR 5/4) very gravelly ashy loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine to coarse roots; common very fine interstitial and tubular pores; 30 percent faint clay bridges between sand grains; 10 percent cobbles, 10 percent paragravel and 45

percent pebbles; slightly acid, (pH 6.1); clear wavy boundary.

Bt3—30 to 42 inches; dark yellowish brown (10YR 4/4) extremely gravelly ashy loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine to coarse roots; common very fine interstitial and tubular pores; 30 percent faint clay bridges between sand grains; 15 percent cobbles, 20 percent paragravel and 45 percent pebbles; moderately acid, (pH 6.0); clear irregular boundary.

Cr—42 to 50 inches; weathered tuff-breccia.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 2,100 feet north and 1,100 feet west of the southeast corner of section 21, T.47 N, R.15 E; Willow Ranch USGS 7.5 minute topographic quadrangle; 41 degrees, 55 minutes, 38.4 seconds north latitude and 120 degrees, 15 minutes, 12.5 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 41 to 45 degrees F.

Mean summer soil temperature: 47 to 54 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.4 to 1 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Umbric epipedon thickness: 14 to 20 inches.

Depth to bedrock: 40 to 60 inches to a paralithic contact.

The paralithic materials below the contact are weathered pyroclastic andesite, andesitic tuff or tuff-breccia.

Profile reaction: Moderately acid or slightly acid.

Particle-size control section:

Clay content—Averages 18 to 27 percent, (field estimates).

Rock fragments—Average 35 to 60 percent, mainly gravel or cobbles.

A horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Rock fragments—Averages 35 to 60 percent, mainly gravel or cobbles.

Organic matter content—1 to 4 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Texture—Ashy loam or ashy sandy clay loam.

Clay content—18 to 27 percent.

Rock fragments—Averages 35 to 60 percent, some subhorizons have more than 60 percent rock fragments in the lower part.

Structure—Moderate or strong, fine to coarse subangular blocky.

Nutzan series

The Nutzan series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from rhyolitic tuff and similar volcanic rocks. Nutzan soils are on plateaus and mountains. Slopes are 4 to 30 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid Vitritorrandic Haploxerolls

Typical pedon: Nutzan gravelly ashy sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pyroclastic tuff, 10 percent obsidian, and 10 percent rhyolitic pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; weak very thin and thin platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine roots; many very fine interstitial pores; 10 percent obsidian and 20 percent hard pyroclastic tuff and rhyolitic pebbles; neutral (pH 6.6); clear wavy boundary.

A2—2 to 10 inches; brown (10YR 5/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; many very fine tubular pores; 10 percent obsidian and 15 percent hard pyroclastic tuff and rhyolitic pebbles; neutral (pH 6.8); clear wavy boundary.

Bw—10 to 17 inches; pale brown (10YR 6/3) gravelly ashy sandy loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium roots; many very fine tubular pores; 20 percent hard glassy vitric

pyroclastic pebbles; 5 percent rhyolitic and tuff pebbles; few thin glass coats bridging mineral grains; neutral (pH 7.0); clear wavy boundary.

BC—17 to 28 inches; very pale brown (10YR 7/3) very gravelly ashy sandy loam, dark yellowish brown (10YR 4/4) moist; weak medium and coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine and fine and few medium roots; many very fine tubular pores; 40 percent hard glassy vitric pyroclastic pebbles; 5 percent rhyolitic and tuff pebbles; few thin glass coats bridging mineral grains; neutral (pH 7.0); clear wavy boundary.

C—28 to 36 inches; very pale brown (10YR 7/3) extremely gravelly ashy coarse sandy loam, yellowish brown (10YR 5/4) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine interstitial pores; 50 percent hard glassy vitric pyroclastic pebbles; 15 percent rhyolitic and tuff pebbles; 10 percent cobbles; neutral (pH 7.0); clear irregular boundary.

Cr—36 to 46 inches; highly fractured weathered vitric rhyolitic tuff; few very fine roots in fractures.

Type location: Washoe County, Nevada; on the south flank of Nut Mountain; in the unsectionized township T.42 N., R.22 E.; USGS Nut Mountain 7.5 minute topographic quadrangle; 41 degrees, 34 minutes, 05 seconds north latitude and 119 degrees, 27 minutes, 05 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in the moisture control section in winter and spring, dry from July through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 10 to 20 inches.

Depth to bedrock: 20 to 40 inches to a paralithic contact. The paralithic materials below the contact are weathered vitric rhyolitic tuff.

Volcanic glass content: 60 to 95 percent volcanic glass, glass-coated grains, and glass aggregates in the coarse silt through fine sand fractions throughout; 40 to 60 percent are glass shards.

Reaction: Slightly acid or neutral.

Particle-size control section:

Clay content—10 to 18 percent.

Rock fragments—40 to 60 percent pebbles. Lithology of fragments are dominantly hard vitric pyroclastic (volcanic) rocks.

A horizons:

Value—5 or 6 dry, 2 or 3 moist. Dry value of 6 is only in the surface 2 inches.

Chroma—2 or 3, dry or moist.

Bw horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Rock fragments—15 to 35 percent, mainly pebbles dominated by vitric volcanic rocks.

BC horizons:

Value—6 or 7 dry, 3 or 4 moist.

Chroma—3 or 4, dry or moist.

Rock fragments—35 to 60 percent, mainly pebbles dominated by vitric volcanic rocks.

C horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Extremely gravelly or very gravelly ashy sandy loam or coarse sandy loam.

Rock fragments—60 to 80 percent, mainly pebbles dominated by vitric volcanic rocks.

Observation series

The Observation series consists of moderately deep, well drained soils that formed in colluvium and residuum weathered from basalt, andesite or tuff. Observation soils are on mountain back slopes. Slopes range from 30 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Fine, smectitic, frigid Typic Argixerolls

Typical pedon: Observation very stony loam in an area of Susanville Area, Parts of Lassen and Plumas Counties, CA, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is covered with 15 percent stones, 15 percent cobbles, and 15 percent gravel.

A1—0 to 3 inches; dark grayish brown (10YR 4/2) very stony loam, very dark brown (10YR 2/2) moist; moderate medium and fine granular structure; soft, very friable, sticky and plastic; many very fine roots; many very fine interstitial pores; 15 percent stones, 15 percent cobbles, 15 percent pebbles; neutral (pH 7.0); clear smooth boundary.

A2—3 to 9 inches; grayish brown (10YR 5/2) loam, very dark grayish brown (10YR 3/2) moist; strong medium and fine subangular blocky structure; slightly hard, very friable, sticky and plastic; common very fine and fine, few medium roots; many very fine and fine tubular and interstitial pores; 5 percent cobbles, 5 percent pebbles; neutral (pH 7.0); clear wavy boundary.

BAt—9 to 18 inches; brown (10YR 5/3) clay loam, dark brown (10YR 3/3) moist; strong medium angular blocky structure; hard, friable, very sticky and very plastic; common very fine and fine roots; many very fine tubular pores; 1 percent stones, 5 percent cobbles and 5 percent pebbles; common moderately thick clay films on faces of peds and in pores; neutral (pH 7.0); gradual wavy boundary.

Bt1—18 to 25 inches; light brown (7.5YR 6/4) gravelly clay, brown (7.5YR 4/4) moist; moderate medium and coarse prismatic structure parting to strong coarse angular blocky; extremely hard, firm, very sticky and very plastic; common very fine exped roots; common very fine tubular pores; 5 percent cobbles and 15 percent pebbles; many thick clay films on peds and in pores; neutral (pH 7.0); gradual wavy boundary.

Bt2—25 to 35 inches; reddish yellow (7.5YR 6/6) gravelly clay; strong brown (7.5YR 4/6) moist; massive; very hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; 5 percent cobbles and 15 percent pebbles; few moderately thick clay film coatings on soft rock fragments; neutral (pH 7.0); abrupt wavy boundary.

R—35 inches; hard fractured andesite, fractures filled with soil material from above.

Type location: Lassen County, California; about 3.0 miles east of Horn Ranch on road to Ravendale and 2.5 miles south of this point on the dirt road to Observation Peak and 75 feet east of this road; about 900 feet north and 100 feet west of the SE corner of section 6, T.34 N., R.16 E.; 40 degrees, 49 minutes, 59 seconds north latitude and 120 degrees, 12 minutes, 06 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist from winter and spring, Xeric moisture regime.

Soil temperature: 44 to 47 degrees F.

Solum thickness and depth to bedrock: 20 to 40 inches.

Rock fragments: Mostly cobbles and stones, cover 20 to 50 percent of the surface.

Mollic epipedon: 8 to 18 inches thick and in some pedons extends into the upper part of the B horizon.

A horizon:

Hue—10YR, 7.5YR.

Value—4 to 5 dry, 2 to 3 moist.

Chroma—2 to 3, dry or moist.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—10YR, 7.5YR.

Value—4 through 6 dry, 3 to 4 moist.

Chroma—2 through 6, dry or moist.

Clay content—Clay loam or clay.

Rock fragments—35 to 50 percent clay and 5 to 25 percent rock fragments, mostly gravel and cobbles.

Reaction—Neutral or slightly alkaline.

Old Camp series

The Old Camp series consists of shallow, well drained soils that formed in residuum and colluvium derived from volcanic rocks. Old Camp soils are on plateaus. Slopes are 4 to 75 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids

Typical pedon: Old Camp very gravelly loam in an area of map unit 499, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered with approximately 50 percent medium and coarse basalt pebbles.

A—0 to 2 inches; very pale brown (10YR 7/3) very gravelly loam, brown (10YR 4/3) moist; weak medium platy structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine vesicular pores; 45 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt—2 to 6 inches; pale brown (10YR 6/3) clay loam, dark brown (10YR 3/3) moist; strong very fine angular blocky structure; soft, very friable; moderately sticky and moderately plastic; many very fine and fine, and few medium roots; many very fine interstitial pores; few faint clay films on faces of peds; neutral (pH 6.8); abrupt wavy boundary.

2Btk—6 to 14 inches; brown (10YR 5/3) extremely stony clay loam, dark yellowish brown (10YR 3/4) moist; moderate medium and fine subangular blocky structure; hard, friable, moderately sticky and moderately plastic; common very fine and fine, and

few medium roots; many very fine interstitial pores; few and common distinct clay films on faces of peds and coating fine pebbles; 20 percent gravel, 25 percent cobbles and 30 percent stones; many fine to coarse distinct or prominent yellow (10YR 7/6), brownish yellow (10YR 6/6), and yellowish brown (10YR 5/4) lithochromic mottles; secondary carbonates segregated as many coarse very pale brown (10YR 8/2) masses on bottoms of rock fragments; slightly alkaline (pH 7.6); abrupt irregular boundary.

2R—14 inches; fractured basalt; very pale brown (10YR 8/2) and very pale brown (10YR 7/3) carbonate coats on the bedrock surface and in fractures.

Type location: Washoe County, Nevada; about 34 miles northwest of Gerlach and 2 miles east of Round Mountain; 500 feet west and 300 feet north of the southeast corner of section 7, T.36 N., R.20 E.; USGS Juniper Springs 7.5 minute topographic quadrangle; 41 degrees, 00 minutes, 28 seconds north latitude and 119 degrees, 46 minutes, 13 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist from late November through May, dry from June through mid-October; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Ochric epipedon thickness: 1 to 7 inches.

Depth to base of argillic horizon: 10 to 20 inches.

Depth to bedrock: 10 to 20 inches to a lithic contact.

Particle-size control section:

Clay content—22 to 35 percent.

Rock fragments—Average 50 to 75 percent, dominantly cobbles and stones. The upper part has 0 to 50 percent rock fragments in some pedons. Lithology of fragments are volcanic rocks such as basalt, rhyolite, andesite, and tuff.

A horizon:

Value—5 through 7 dry, 3 or 4 moist.

Chroma—2 or 3, dry or moist.

Reaction—Neutral through moderately alkaline.

Bt and 2Btk horizons:

Hue—10YR or 7.5YR

Value—4 through 7 dry, 3 through 5 moist.

Chroma—2 through 4, dry or moist.

Texture (less than 2 millimeter fraction)—Clay loam or sandy clay loam; some pedons have subhorizons of loam.

Rock fragments—Average 50 to 75 percent, mainly cobbles and stones.

Consistence—Soft to hard; very friable or friable, slightly sticky or moderately sticky and slightly plastic or moderately plastic.

Structure—Weak to strong, coarse to fine angular blocky or subangular blocky.

Reaction—Neutral or slightly alkaline in the upper part, neutral through strongly alkaline in the lower part.

Effervescence—Noneffervescent or slightly effervescent in the Bt horizon; noneffervescent to strongly effervescent in the Btk horizon.

Identifiable secondary carbonates—Few, fine to coarse coats on rock fragments in the Btk horizon or on the bedrock surface.

Calcium carbonate equivalent—0 to 5 percent.

Paynepeak series

The Paynepeak series consists of deep, well drained soils that formed in colluvium and residuum derived from volcanic ash and volcanic rocks. Paynepeak soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 40 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Ashy-skeletal, glassy Vitrandic Argicryolls

Typical pedon: Paynepeak gravelly ashy sandy loam in an area of map unit 521, rangeland (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered by 30 percent gravel, 5 percent cobbles and 2 percent stones.

A1—0 to 3 inches; brown (10YR 4/3) gravelly ashy loam, very dark brown (10YR 2/2) moist; weak fine and medium subangular blocky structure; soft, very friable, slightly sticky, nonplastic; common very fine roots; many very fine interstitial pores; 20 percent pebbles; slightly acid, (pH 6.5); clear wavy boundary.

A2—3 to 13 inches; brown (10YR 4/3) gravelly ashy loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky, nonplastic; many very fine and fine roots and common medium and coarse roots; many very fine interstitial pores; 5 percent paragravel and 25 percent pebbles; slightly acid, (pH 6.5); clear wavy boundary.

Bt1—13 to 19 inches; brown (10YR 4/3) very gravelly ashy loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; many very fine and fine roots and common medium and

coarse roots; common very fine interstitial and tubular pores; 25 percent distinct clay films on surfaces, pores and faces of peds; 5 percent paragravel, 10 percent stones and 25 percent pebbles; neutral, (pH 6.6); clear wavy boundary.

Bt2—19 to 32 inches; yellowish brown (10YR 5/4) very gravelly ashy loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine to coarse roots; common very fine interstitial and tubular pores; 25 percent distinct clay films on faces of peds and pores; 10 percent paragravel, 15 percent cobbles and 40 percent pebbles; neutral, (pH 6.6); clear wavy boundary.

Bt3—32 to 43 inches; yellowish brown (10YR 5/4) very gravelly ashy loam, dark yellowish brown (10YR 3/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine to coarse roots; common very fine interstitial and tubular pores; 25 percent distinct clay films on faces of peds and pores; 10 percent paragravel, 15 percent cobbles and 35 percent pebbles; neutral, (pH 6.7); clear irregular boundary.

Cr—43 to 47 inches; weathered andesitic tuff-breccia

Type location: Modoc County, California on the Modoc National Forest; 2,400 feet south and 1,000 feet west of the northeast corner of section 32, T.48 N., R.16 E.; Mount Bidwell 7.5 minute topographic quadrangle; 41 degrees, 59 minutes, 16 seconds north latitude and 120 degrees, 09 minutes, 15 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric moisture regime.

Mean annual soil temperature: 43 to 47 degrees F.

Mean summer soil temperature: 54 to 59 degrees F.

Oxalate extractable A1 + 1/2 iron: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 30 to 60 inches.

Depth to bedrock: 40 to 60 inches to a paralithic contact.

The paralithic material below the contact is andesitic tuff or tuff-breccia.

Profile reaction: Slightly acid or neutral.

Control section:

Clay content—18 to 27 percent.

Rock fragments—35 to 60 percent rock fragments, mainly gravel although stones and cobbles are

common. Lithology of fragments is pyroclastic volcanic rocks such as andesitic tuff.

A horizon:

Hue—10YR or 7.5YR

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—2 to 4 percent.

Bt1 and Bt2 horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 dry or moist.

Structure—Angular blocky or subangular blocky.

Clay content—18 to 27 percent.

Rock fragments—35 to 60 percent.

Texture of fine earth—Ashy loam or ashy sandy clay loam.

Consistence—Slightly hard or hard dry.

Organic matter content—1 to 2 percent

Bt3 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—3 or 4 dry or moist.

Structure—Angular blocky or subangular blocky.

Clay content—18 to 27 percent.

Rock fragments—35 to 60 percent.

Texture of fine earth—Ashy loam or ashy sandy clay loam

Consistence—Slightly hard or hard

Organic matter content—0.5 to 2 percent

Paypoint series

The Paypoint series consists of very deep, well drained soils that formed in volcanic ash and alluvium derived from tuff over lacustrine deposits derived from basalt. Paypoint soils are on lagoons. Slopes are 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy over sandy or sandy-skeletal, glassy over mixed, mesic Durinodic Xeric Haplargids

Typical pedon: Paypoint gravelly ashy fine sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—to 2 inches; pale brown (10YR 6/3) gravelly ashy fine sandy loam, dark brown (10YR 3/3) moist; strong thick and very thick platy structure; hard, very friable, slightly sticky and nonplastic; few very fine roots;

many very fine and fine vesicular pores; 15 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

A2—to 5 inches; pale brown (10YR 6/3) gravelly ashy loam, dark brown (10YR 3/3) moist; strong very thick platy structure; hard, very friable, slightly sticky and nonplastic; few very fine roots; many very fine and fine vesicular pores; 15 percent pebbles; slightly alkaline (pH 7.6); abrupt smooth boundary.

Bt—to 11 inches; light yellowish brown (10YR 6/4) ashy loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine and few fine roots; common very fine tubular pores; common faint clay films on faces of peds and lining pores; 5 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

Bqk—to 17 inches; very pale brown (10YR 7/4) ashy loam, dark yellowish brown (10YR 4/4) moist; moderate medium platy structure; hard, friable and firm, slightly sticky and slightly plastic; few very fine and fine roots; few very fine tubular pores; 80 percent very weak distinct discontinuous silica cementation; common fine silica masses in matrix; common fine carbonate coats on faces of peds; violently effervescent; moderately alkaline (pH 8.0); abrupt wavy boundary.

2Ckq1—17 to 25 inches; light yellowish brown (2.5Y 6/4) very gravelly loamy sand, olive brown (2.5Y 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 40 percent pebbles; 20 percent fine silica and carbonate coats on bottom of rock fragments; violently effervescent; moderately alkaline (pH 8.2); clear wavy boundary.

2Ckq2—25 to 36 inches; light yellowish brown (2.5Y 6/4) very gravelly sand, olive brown (2.5Y 4/4) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 50 percent pebbles; 15 percent fine carbonate coats on bottom of rock fragments; common fine silica coats on mineral grains; violently effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

2C—36 to 60 inches; pale brown (10YR 6/3) gravelly fine sand, dark yellowish brown (10YR 4/3) moist; single grain; loose, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 30 percent pebbles; violently effervescent; moderately alkaline (pH 8.4)

Type location: Washoe County, Nevada; about 6.5 miles east of Vya and 150 feet south of county road 8A at the junction of the dirt track to Lone Spring; in a

unsectionized township near the projected northeast corner of section 9, T.42 N., R.20 E.; USGS Painted Point 7.5 minute topographic quadrangle; 41 degrees, 34 minutes, 53 seconds north latitude and 119 degrees, 44 minutes, 01 second west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry from mid-June through October; aridic moisture regime that borders on xeric.

Soil temperature: 47 to 51 degrees F.

Depth to base of argillic horizon and horizons with brittle matrix: 10 to 20 inches.

Depth to identifiable secondary carbonates: 11 to 24 inches.

Depth to strongly contrasting horizons: 16 to 30 inches.

Volcanic glass content: 35 to 55 percent in the very fine sand and fine sand size fractions in the A, Bt, and Bqk horizons; 5 to 20 percent in the 2C horizons.

Control section:

Clay content—18 to 25 percent in the upper part and 0 to 2 percent in the contrasting lower part.

Rock fragment—0 to 10 percent in the upper part and 30 to 50 percent in the lower part, fragments are mainly pebbles of volcanic rocks such as basalt.

A horizons:

Value—5 or 6 dry, 3 through 5 moist.

Chroma—2 or 3.

Reaction—Slightly alkaline or moderately alkaline.

Bt horizon:

Value—5 or 6 dry, 4 or 5 moist.

Chroma—2 through 4.

Texture—Ashy loam or ashy sandy clay loam.

Clay content—18 to 25 percent.

Sand content—35 to 50 percent.

Consistence—Hard or very hard dry, very friable or friable moist.

Rock fragments—0 to 10 percent, mainly pebbles.

Reaction—Slightly alkaline or moderately alkaline.

Bqk horizon:

Value—6 through 8 dry, 4 through 6 moist.

Chroma—3 or 4.

Texture—Ashy loam or ashy sandy clay loam.

Clay content—18 to 25 percent.

Rock fragments—0 to 10 percent pebbles.

Structure—Thin through thick platy.

Reaction—Slightly alkaline or moderately alkaline.

Silica cementation—A brittle matrix with weak, discontinuous silica cementation is present in most pedons.

Calcium carbonate equivalent—1 to 3 percent.

Other features—Some pedons lack secondary carbonates.

2Ckq and 2C horizons:

Hue—10YR or 2.5Y.

Value—6 or 7 dry; 4 or 5 moist.

Chroma—3 or 4.

Texture—Stratified very gravelly sand to gravelly loamy sand.

Clay content—0 to 2 percent.

Rock fragments—30 to 50 percent pebbles.

Structure—Massive or single grain.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent to violently effervescent.

Identifiable secondary carbonates—Few to many 0.5 millimeter to 1.0 millimeter carbonate coats on bottom of rock fragments.

Calcium carbonate equivalent—2 to 5 percent.

Other features—Some pedons lack secondary carbonates.

Pegler series

The soils of the Pegler series are shallow, well drained soils formed in volcanic ash and alluvium from mixed volcanic and sedimentary rocks over residuum from soft tuff. They are on rock pediments. Slopes range from 0 to 2 percent. The mean annual precipitation is about 8 inches and the mean annual air temperature is about 45 F.

Taxonomic class: Ashy, glassy, mesic, shallow Vitrixerandic Haplocambids

Typical pedon: Pegler ashy fine sandy loam in an area of map unit 486, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partly covered with 10 percent volcanic and obsidian gravel.

A—0 to 2 inches, light gray (10YR 7/2) ashy fine sandy loam, dark grayish brown (10YR 4/2) moist; weak, thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

Bw1—2 to 5 inches, pale brown (10YR 6/3) ashy sandy loam, brown (10YR 5/3) moist; weak, medium

prismatic and moderate very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine interstitial and few fine tubular pores; common faint colloidal clay coatings on sand grains; strongly effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

2Bw2—5 to 10 inches, very pale brown (10YR 7/4) paragravelly ashy sandy clay loam, yellowish brown (10YR 5/4) moist; moderate, medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; common very fine, and few fine through coarse roots, medium and coarse roots are horizontal at the lower boundary; many very fine interstitial, and few fine tubular pores; 20 percent paragravel; common thin colloidal clay coatings on sand grains; violently effervescent; strongly alkaline (pH 8.8); clear irregular boundary

2Crk—10 to 14 inches, fractured tuff, slightly curved fracture plains; many .5 millimeter thick lime coats in fractures.

2Cr—14 to 30 inches, fractured, weathered tuff.

Type location: Washoe County, Nevada; in an unsectionized area; about 100 feet south and 200 feet east of the apparent center of section 10, T.36 N., R.19 E.; 41 degrees, 1 minute, 3.9 seconds north latitude and 119 degrees, 50 minutes, 15.15 seconds west longitude; NAD27; Juniper Springs, NV 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; dry summer and fall, moist in late winter and spring. Aridic bordering xeric soil moisture regime.

Mean annual soil temperature: 47 to 50 F.

Depth to a paralithic contact: 10 to 14 inches.

Mineralogy: 40 to 75 percent volcanic glass in the 0.2 to 2.0 millimeter fraction.

Control section:

Clay content—18 to 24 percent.

Rock fragments—0 to 10 percent volcanic pebbles; 0 to 30 percent paragravel, usually less than 10 percent in all horizons except immediately above the paralithic contact.

A horizon:

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 3 or 4 moist.

Chroma—2 or 3.

Reaction—Moderately alkaline or strongly alkaline.

Sodicity—SAR is 0 to 5.

Bw horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

Texture—Dominantly ashy sandy clay loam or ashy sandy loam, subhorizons of ashy loam are in some pedons.

Other features—Few or common colloidal stains on sand grains and pebbles in the lower part.

Reaction—Moderately alkaline or strongly alkaline.

Sodicity—SAR is 0 to 5.

Pickup series

The Pickup series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from volcanic rocks. Pickup soils are on pediments, hills, and plateaus. Slopes are 8 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Clayey-skeletal, smectitic, mesic Aridic Argixerolls

Typical pedon: Pickup very stony loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is covered by approximately 10 percent stones and 10 percent cobbles.

A—0 to 2 inches; brown (10YR 5/3) very stony loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular, and common very fine vesicular pores; 30 percent pebbles, 10 percent cobbles, and 10 percent stones; neutral (pH 7.0); clear wavy boundary.

AB—2 to 8 inches; brown (10YR 5/3) very gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine and medium subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; common very fine and fine roots; many very fine tubular pores; 40 percent pebbles; few faint clay bridges on sand grains; neutral (pH 7.0); clear smooth boundary.

Bt1—8 to 12 inches; brown (10YR 5/3) very gravelly clay, dark brown (10YR 3/3) moist; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; slightly hard, very friable, moderately sticky and moderately plastic; common very fine, fine, medium and roots; common very fine

tubular pores and few very fine interstitial pores; common faint clay films on faces of peds; 45 percent pebbles; neutral (pH 7.2); clear smooth boundary.

Bt2—12 to 27 inches; brown (10YR 5/3) very gravelly clay, dark yellowish brown (10YR 4/4) moist; weak coarse prismatic structure parting to moderate fine and medium subangular blocky; very hard, friable, moderately sticky and very plastic; few very fine through coarse roots; few very fine tubular and interstitial pores; common distinct clay films on faces of peds and lining pores; 35 percent pebbles; neutral (pH 7.2); clear smooth boundary.

Bt3—27 to 34 inches; light yellowish brown (10YR 6/4) very gravelly clay loam, yellowish brown (10YR 5/4) moist; weak medium subangular blocky structure; slightly hard, friable, moderately sticky and moderately plastic; few very fine roots; few very fine interstitial pores; common distinct clay films on faces of peds and lining pores; 35 percent pebbles; neutral (pH 7.2); clear wavy boundary.

R—34 inches; hard basalt; slightly weathered in upper few inches.

Type location: Washoe County, Nevada; about 1 mile south of the Smoke Creek Ranch; 300 feet north and 1,300 feet west of the southeast corner of section 21, T.31 N., R.18 E.; 40 degrees, 31 minutes, 40 seconds north latitude and 119 degrees, 56 minutes, 11 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, dry in summer and fall; aridic moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Control section:

Clay content—40 to 55 percent.

Rock fragments—35 to 60 percent, mainly pebbles and cobbles. Lithology of fragments are volcanic rocks such as basalt, andesite, rhyolite, and tuff.

Reaction—Neutral to moderately alkaline.

A and AB horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly clay loam or very gravelly clay.

Structure—Prismatic, angular blocky, or subangular blocky.

Consistence—Slightly hard or hard; friable or very friable; moderately sticky or very sticky and moderately plastic or very plastic.

Clay content—35 to 45 percent.

Other features—In some pedons, this horizon is part of the mollic epipedon when chroma is less than 4.

Bt2 horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Structure—Prismatic or subangular blocky.

Clay content—50 to 60 percent.

Reaction—Neutral to moderately alkaline.

Bt3 horizon:

Texture—Very gravelly clay or very gravelly clay loam

Clay content—35 to 45 percent

Rock fragments—35 to 60 percent

Other features—Some pedons have identifiable secondary carbonates as coats on rock fragments or filaments on faces of peds.

Powlow series

The Powlow series consists of shallow to a duripan, well drained soils that formed in alluvium derived from volcanic rocks. Powlow soils are on fan remnants.

Slopes are 2 to 8 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Clayey, smectitic, mesic, shallow Argidic Durixerolls

Typical pedon: Powlow very gravelly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with approximately 40 percent pebbles and 2 percent cobbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) very gravelly loam, very dark grayish brown (10YR 3/2) moist; moderate thin and medium platy structure;

slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine and fine vesicular pores; 45 percent pebbles; neutral (pH 6.8); abrupt wavy boundary.

A2—2 to 6 inches; grayish brown (10YR 5/2) gravelly loam, dark brown (10YR 3/3) moist; strong very thin and thin platy structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine and common fine roots; many very fine vesicular pores; 30 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bt1—6 to 10 inches; brown (10YR 5/3) gravelly clay loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; common fine tubular pores; many distinct clay films on faces of peds and lining pores; 20 percent pebbles; neutral (pH 7.0); clear wavy boundary.

Bt2—10 to 15 inches; strong brown (7.5YR 5/6) gravelly clay, strong brown (7.5YR 4/6) moist; moderate fine prismatic structure parting to strong fine and medium subangular blocky; very hard, very friable, very sticky and very plastic; common very fine and few fine roots; common fine tubular pores; many distinct clay films on faces of peds and lining pores; 20 percent pebbles; slightly alkaline (pH 7.4); abrupt wavy boundary.

Bqm—15 to 25 inches; pink (7.5YR 7/4) cemented material, yellowish brown (10YR 5/6) moist; strong thick platy structure; extremely hard, extremely firm; strongly cemented by secondary silica; common very fine roots matted on plate surfaces; alternate horizontal light brown (7.5YR 6/4) 1 to 2 millimeter thick silica laminae on tops of plates, brown (7.5YR 4/4) moist; slightly alkaline (pH 7.8); clear smooth boundary.

Bqkm1—25 to 36 inches; reddish yellow (7.5YR 7/6) cemented material, strong brown (7.5YR 5/6) moist; massive; extremely hard, extremely firm; strongly cemented by secondary silica; secondary carbonates segregated as common medium and coarse horizontal masses; many thin (<0.5 millimeter) coats of silica and secondary carbonates on bottoms of rock fragments within cemented matrix; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bqkm2—36 to 60 inches; pink (7.5YR 8/4) cemented material, strong brown (7.5YR 5/6) moist; massive; very hard, extremely firm and very firm; strongly to weakly cemented by secondary silica; common alternate horizontal discontinuous 0.5 to 2 millimeter silica laminae; secondary carbonates segregated as

few fine and medium horizontal masses; strongly effervescent; moderately alkaline (pH 8.0).

Type location: Washoe County, Nevada; southeast of Bitner Table near the Sheldon Antelope Refuge; in a unsectionized T.43 N., R.22 E.; USGS Badger Mountain NW 7.5 minute topographic quadrangle; 41 degrees, 37 minutes, 59 seconds north latitude and 119 degrees, 28 minutes, 45 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry from mid-June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 51 degrees F.

Mollic epipedon thickness: 9 to 15 inches, includes the Bt1 horizon.

Depth to duripan: 14 to 20 inches.

Particle-size control section:

Clay content—35 to 50 percent.

Rock fragments—10 to 25 percent, mainly gravel.

Lithology of fragments are volcanic rocks such as basalt or tuff.

Reaction—Neutral to moderately alkaline.

A horizon:

Value—2 or 3 moist.

Chroma—2 or 3, dry or moist.

Clay content—10 to 18 percent.

Organic matter content—1 to 3 percent.

Bt horizons:

Hue—7.5YR or 10YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—3 through 6, dry or moist.

Texture—Clay, gravelly clay, or gravelly clay loam.

Clay content—35 to 50 percent.

Rock fragments—10 to 25 percent.

Structure—Subangular blocky, angular blocky, or prismatic parting to subangular blocky or angular blocky.

Organic matter content—1 or 2 percent in the Bt1 horizon.

Bqm and Bqkm horizons:

Hue—7.5YR or 10YR.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—4 through 6, dry or moist.

Cementation class—Strongly cemented or moderately cemented. Lenses of weakly cemented material are in the lower part of most pedons.

Pyropatti series

The Pyropatti series consists of deep, well drained soils that formed in volcanic ash and colluvium over residuum derived from tuff and andesite. Pyropatti soils are on mountains. Slopes are 2 to 30 percent. The mean annual precipitation is about 30 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy Vitrandic Argicryolls

Typical pedon: Pyropatti gravelly ashy loam in an area of map unit 528, forestland. (Colors are for dry soil unless otherwise noted). The soil surface is partly covered by 25 percent gravel.

A1—0 to 3 inches; dark grayish brown (10YR 4/2), gravelly ashy loam, very dark brown (10YR 2/2), moist; weak fine granular structure; soft, very friable, slightly sticky, nonplastic; many very fine roots; many very fine interstitial pores; 20 percent pebbles; slightly acid (pH 6.1); clear wavy boundary.

A2—3 to 9 inches; dark grayish brown (10YR 4/2), gravelly ashy loam, very dark brown (10YR 2/2), moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky, nonplastic; common fine to coarse roots and many very fine roots; common very fine interstitial and tubular pores; 20 percent pebbles; slightly acid (pH 6.1); clear wavy boundary.

Bt1—9 to 20 inches; dark grayish brown (10YR 4/2), very gravelly ashy loam, very dark brown (10YR 2/2), moist; moderate fine and medium subangular blocky structure; soft, very friable, slightly sticky, nonplastic; common very fine to coarse roots; common very fine interstitial and tubular pores; 10 percent cobbles and 35 percent pebbles; slightly acid (pH 6.2); clear wavy boundary.

Bt2—20 to 30 inches; dark grayish brown (10YR 4/2), very gravelly ashy loam, very dark brown (10YR 2/2), moist; strong medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine to medium roots; common very fine interstitial and tubular pores; 15 percent faint clay bridges between sand grains; 10 percent cobbles and 45 percent pebbles; slightly acid (pH 6.5); clear wavy boundary.

Bt3—30 to 48 inches; brown (10YR 5/3), very gravelly ashy loam, dark brown (10YR 3/3), moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common fine and medium roots and few very fine roots; common very fine interstitial and tubular pores; 2

percent faint clay bridges between sand grains; 5 percent dark yellowish brown (10YR 3/4) moist, faint redox concentrations; 10 percent cobbles and 45 percent pebbles; slightly acid (pH 6.5): clear wavy boundary.

Cr—48 inches; weathered andesite.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 2,600 feet north and 1,200 feet east of the southwest corner of section 34, T.48 N., R.16 E.; Mt. Bidwell USGS 7.5 minute topographic quadrangle; 41 degrees, 59 minutes, 10.1 seconds north latitude and 120 degrees, 07 minutes, 36.0 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime. Saturated for brief periods below 30 inches during spring snowmelt.

Mean annual soil temperature: 41 to 45 degrees F.

Mean summer soil temperature: 47 to 55 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 30 to 60 inches.

Depth to bedrock: 40 to 60 inches to a paralithic contact.

The paralithic materials below the contact are weathered andesite or pyroclastic andesitic tuff.

Profile reaction: Slightly acid or neutral.

Particle-size control section:

Clay content—Averages 18 to 27 percent, (field estimates).

Rock fragments—35 to 60 percent, mainly gravel or cobbles.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—2 to 4 percent.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam or ashy sandy loam.

Clay content—12 to 18 percent.

Rock fragments—35 to 60 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—1 to 2 percent

Bt2 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam or ashy sandy loam.

Clay content—18 to 27 percent.

Rock fragments—35 to 60 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—1 to 2 percent

Bt3 horizon:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2, 3 or 4, dry or moist.

Texture—Ashy loam or ashy sandy loam.

Clay content: 18 to 27 percent.

Rock fragments—35 to 60 percent.

Redox concentrations—2 to 10 percent

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—0.5 to 2 percent.

Raglan series

The Raglan series consists of very deep, well drained soils that formed in loamy mixed alluvium and lacustrine materials derived from mixed rock sources with a component of loess and volcanic ash. The Raglan soils are on lake plain terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Durinodic Haplocambids

Typical pedon: Raglan very fine sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 3 inches; pale brown (10YR 6/3) very fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, sticky and slightly plastic; few very fine and fine roots; many very fine vesicular pores; strongly effervescent; strongly alkaline (pH 8.6); abrupt smooth boundary.

Bw—3 to 14 inches; pale brown (10YR 6/3) silt loam, dark grayish brown (10YR 4/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine tubular pores; many very fine and fine and few

medium roots; strongly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Bqk—14 to 26 inches; very pale brown (10YR 7/3) silt loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable, sticky and plastic; common very fine, and few fine roots; few very fine tubular pores; 40 percent hard 5 to 15 millimeter durinodes; violently effervescence; strongly alkaline (pH 9.0); clear smooth boundary.

2C1—26 to 33 inches; pale brown (10YR 6/3) sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable, sticky and plastic; many very fine and fine roots; common very fine tubular pores; strongly effervescent; strongly alkaline (pH 8.8).

3C2—33 to 41 inches; light gray (2.5Y 7/2) silty clay loam, grayish brown (2.5Y 5/2) moist; massive; soft, very friable, sticky and plastic; common very fine and fine roots; many very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.8); abrupt smooth boundary.

4C3—41 to 61 inches; light gray (2.5Y 7/2) very fine sandy loam, grayish brown (2.5Y 5/2) moist; massive; soft, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine interstitial pores; strongly effervescent; strongly alkaline (pH 8.6).

Type location: Washoe County, Nevada; about 2,100 feet west and 1,100 feet south of the northeast corner of section 8 T.41 N., R.18 E.; 41 degrees, 29 minutes, 34 seconds north latitude and 119 degrees, 59 minutes, 36 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, intermittently moist in the winter and spring, dry late May through November.

Soil temperature: 47 to 52 degrees F.

Depth to Bqk horizon: 10 to 20 inches.

Reaction: Slightly alkaline to very strongly alkaline, usually increasing with depth.

Salt and sodium: The soils are normally non-saline to slightly saline-sodic affected to a depth of 10 to 20 inches and slightly to strongly affected below. Moderate or strongly saline-sodic affected phases are recognized.

Other features: Mineralogy is mixed, but has a strong influence from volcanic ash.

Control section:

Clay content—18 to 25 percent.

Hue—10YR or 2.5Y.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4.

A horizon:

Effervescence—Noneffervescent to strongly effervescent.

SAR—5 to 12.

Salinity—0 to 4 mmhos/cm.

Reaction—Moderately alkaline or strongly alkaline.

Bw horizon:

Structure—Fine to thick platy, prismatic or subangular blocky or is massive.

Textures—Stratified, including loam, silt loam, very fine sandy loam, clay loam and silty clay loam; averages silt loam with 15 percent sand coarser than very fine sand.

Effervescence—Noneffervescent to strongly effervescent.

SAR—13 to 30.

Salinity—0 to 4 mmhos/cm.

Reaction—Moderately alkaline or strongly alkaline.

Bqk horizon:

Durinodes—20 to 80 percent, up to 40 percent discontinuous weak silica cementation is common in any subhorizon where durinodes are present. Durinodes are hard or very hard dry, firm or very firm, moist and brittle.

Consistence—Matrix is soft to hard, dry, and very friable or friable moist.

2C and 3C horizons:

Structure—Platy or horizon is massive.

Effervescence—Slightly effervescent to violently effervescent.

Other features—Lacustrine material with hue of 2.5Y or 5Y and relict mottles with reddish-hue (7.5YR or 5YR) and high chroma (4 through 6) iron stains commonly occur below depths of 24 inches. Gypsum segregations and shells from various aquatic animals are in the lacustrine material in most pedons.

SAR—13 to 45.

Salinity—4 to 8 mmhos/cm.

Ragtown series

The Ragtown series consists of very deep, moderately well drained soils that formed in lacustrine sediments derived from mixed rocks. Ragtown soils are on lake terraces and basin floor remnants. Slopes are 0 to 2 percent. The mean annual precipitation is about 5 inches and the mean annual temperature is about 53 degrees F.

Taxonomic class: Fine, smectitic, calcareous, mesic
Typic Torriorthents

Typical pedon: Ragtown silt loam in an area of Humboldt County, NV, West Part, irrigated cropland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; light gray (10YR 7/2) silt loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine tubular pores; strongly effervescent; very strongly alkaline (pH 9.2); clear smooth boundary.

A2—2 to 7 inches; light gray (10YR 7/2) silt loam, brown (10YR 5/3) moist; weak fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and few fine tubular pores; strongly effervescent; very strongly alkaline (pH 9.2); clear smooth boundary.

C—7 to 17 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; massive; hard, firm, sticky and plastic; common very fine and few fine roots; common very fine and fine tubular pores; slightly effervescent; very strongly alkaline (pH 9.2); clear smooth boundary.

2C'1—17 to 30 inches; pale brown (10YR 6/3) silty clay, brown (10YR 4/3) moist; massive; hard, firm, very sticky and very plastic; few very fine and fine roots; common very fine and fine tubular pores; slightly effervescent; very strongly alkaline (pH 9.2); abrupt smooth boundary.

2C'2—30 to 60 inches; light gray (5Y 7/2) silty clay loam with a few thin stratas of fine sand, pale olive (5Y 6/3) moist; few fine distinct brown (7.5YR 5/4) moist mottles; weak thin platy structure; slightly hard, very friable, sticky and plastic; few very fine roots; many very fine tubular pores; slightly effervescent; strongly alkaline (pH 9.0).

Type location: Humboldt County, Nevada; approximately 1.5 miles east of Mormon Dan Peak, about 2,500 feet north and 1,750 feet east of the projected southwest corner of section 33, T.36 N., R.25 E.; 40 degrees, 58 minutes, 04 seconds north latitude and 119 degrees, 08 minutes, 24 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, intermittently moist for short periods in the winter and spring, dry May through November; Typic Torric moisture regime.

Soil temperature: 53 to 57 degrees F.

Depth to fine textured materials: 16 to 32 inches.

Control section:

Clay content—Averages 35 to 45 percent, with 25 to 35 percent clay in the upper part and 35 to 60 percent clay in the lower part.

Texture—Stratified silty clay loam, clay loam or sandy clay loam in the upper part and stratified clay, silty clay or silty clay loam in the lower part.

Reaction—Moderately alkaline to very strongly alkaline. Very strongly alkaline usually occurs in strongly saline-sodic affected areas.

Effervescence—Slightly effervescent to violently effervescent.

A horizon:

Hue—10YR through 5Y.

Value—5 through 7 dry and 3 through 5 moist.

Chroma—2 through 4, dry or moist.

AC and C horizons:

Hue—10YR through 5Y.

Value—6 or 7 dry and 4 through 6 moist.

Chroma—2 through 4, dry or moist.

Structure—Platy, subangular blocky, prismatic, or horizon is massive.

Consistence—Slightly hard or hard dry, moderately sticky or very sticky and moderately plastic or very plastic wet.

Salinity (EC)—0 to 32 mmhos/cm.

Sodicity (SAR)—1 to 90.

Calcium carbonate equivalent—1 to 40 percent.

Gypsum content—0 to 5 percent.

Redoximorphic features—Relict redox concentrations of iron or manganese may be present in any subhorizon.

Other features—Horizons with secondary carbonates are present in some pedons. Some pedons have few fine soft masses of secondary gypsum.

Redhome series

The Redhome series consists of moderately deep, well drained soils that formed in volcanic ash and residuum and colluvium from volcanic rocks. Redhome soils are on plateaus and mountains. Slopes are 4 to 15 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine, mixed, superactive, frigid
Vitriorthentic Argixerolls

Typical pedon: Redhome cobbly loam in an area of map unit 534, rangeland (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 5 percent stones, 10 percent cobbles and 10 percent gravel.

A1—0 to 2 inches; brown (7.5YR 5/3) cobbly loam, dark brown (7.5YR 3/2) moist; moderate thin and medium platy structure; hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular pores; 5 percent stones, 10 percent cobbles, 10 percent gravel; slightly acid (pH 6.4); clear wavy boundary.

A2—2 to 6 inches; brown (7.5YR 4/3) clay loam, dark reddish brown (5YR 3/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots; many very fine and common fine tubular pores; neutral (pH 7.0); clear wavy boundary.

Bt1—6 to 13 inches; brown (7.5YR 4/3) gravelly clay loam, dark reddish brown (5YR 3/2) moist; strong medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine, fine and common medium and coarse roots; many very fine tubular pores; common distinct dark reddish brown (5YR 3/2) clay films on faces of peds and lining pores; 5 percent cobbles, 20 percent gravel; neutral (pH 7.2); clear wavy boundary.

Bt2—13 to 22 inches; brown (7.5YR 5/4) gravelly clay loam, dark reddish brown (5YR 3/4) moist; moderate medium and coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine, common fine and medium roots; many very fine and common fine tubular pores; common distinct reddish brown (5YR 4/3) clay films on faces of peds and lining pores, dark reddish brown (5YR 3/3) moist; 5 percent cobbles, 20 percent gravel; neutral (pH 7.2); clear wavy boundary.

Bt3—22 to 28 inches; yellowish red (5YR 4/6) gravelly clay loam, dark reddish brown (5YR 3/4) moist; weak medium and coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; many very fine tubular pores; common distinct reddish brown (5YR 4/3) clay films on faces of peds and lining pores; 5 percent cobbles, 20 percent gravel; neutral (pH 7.2); clear wavy boundary.

Bt4—28 to 36 inches; brown (7.5YR 4/4) gravelly clay loam, dark reddish brown (5YR 3/4), moist; weak medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic;

common very fine, fine and medium roots; many very fine tubular pores; common distinct reddish brown (5YR 4/3) clay films on faces of peds and lining pores, dark reddish brown (5YR 3/3) moist; 5 percent cobbles and 25 percent gravel; neutral (pH 7.2); clear irregular boundary.

Cr—36 to 46 inches; soft, weathered vesicular basalt.

Type location: Washoe County, Nevada; approximately 2,100 feet west and 4,200 feet south of the northeast corner of section 25, T.35 N., R.18 E.; 40 degrees, 52 minutes, 38.83 seconds north latitude, 119 degrees, 54 minutes, 27.17 seconds west longitude; NAD27; Burnt Lake 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; moist late fall through spring, dry late June through October. Aridic bordering xeric soil moisture regime.

Soil temperature: 45 to 47 degrees F.

Mollic epipedon thickness: 10 to 20 inches, includes the upper argillic horizon.

Depth to paralithic contact: 20 to 40 inches.

Sodium flouride pH: 8.6 through 9.4.

Base saturation: 60 to 75 percent by sum of cations.

Control section:

Clay content—35 to 45 percent.

Rock fragments—15 to 35 percent, mainly andesite and basalt cobbles and pebbles.

A horizon:

Hue—7.5YR or 5YR.

Value—2 or 3 moist.

Chroma—2 or 3.

Volcanic ash—Glass content is 5 to 15 percent in the 0.2 to 2.0 millimeter fraction; product of (A1 + 1/2 Fe x 60) plus glass is greater than 30.

Reaction—Slightly acid or neutral.

Bt1 horizon:

Value—4 or 5, dry; 2 or 3, moist.

Chroma—2 or 3.

Clay content—30 to 40 percent.

Rock fragments—15 to 35 percent, mainly pebbles.

Structure—Moderate or strong subangular blocky.

Volcanic ash—Glass content is 5 to 15 percent in the 0.2 to 2.0 millimeter fraction; product of (A1 + 1/2 Fe x 60) plus glass is greater than 30.

Reaction—Slightly acid or neutral.

Bt2 and Bt3 horizons:

Hue—7.5YR or 5YR.

Value—4 or 5, dry; 3 or 4 moist

Chroma—3 through 6.
 Clay content—35 to 45 percent.
 Texture—Gravelly clay loam or gravelly clay.
 Rock fragments—15 to 30 percent pebbles, 0 to 5 percent stones and 1 to 10 percent cobbles.
 Structure—Subangular or angular blocky.
 Reaction—Neutral or slightly alkaline.

Reywat series

The Reywat series consists of shallow, well drained soils that formed in residuum and colluvium derived dominantly from basalt. Reywat soils are on hills, mountains, and plateaus. Slopes are 4 to 75 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Argixerolls

Typical pedon: Reywat very stony loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted). The surface is partially covered with 10 percent stones, 10 percent cobbles, and 20 percent pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) very stony loam, very dark grayish brown (10YR 3/2) moist; moderate very thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 10 percent stones, 10 percent cobbles, 20 percent pebbles; neutral (pH 6.6); abrupt wavy boundary.

A2—2 to 6 inches; brown (10YR 5/3) very stony loam, very dark grayish brown (10YR 3/2) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 30 percent pebbles, 10 percent cobbles and 15 percent stones; neutral (pH 6.6); clear wavy boundary.

Bt1—6 to 11 inches; brown (10YR 5/3) very gravelly loam dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, very friable, sticky and plastic; many very fine roots; common very fine tubular pores; common thin clay films on faces of peds and in pores; 50 percent pebbles and 5 percent cobbles; neutral (pH 6.6); clear wavy boundary.

Bt2—11 to 18 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; moderate medium subangular blocky structure; hard, friable, sticky and plastic; common very fine roots; common

very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; 40 percent pebbles and 10 percent cobbles; neutral (pH 6.6); abrupt irregular boundary.
 R—18 to 22 inches; basalt, slightly decomposed, slightly effervescent at upper surface and in some cracks.

Type location: Washoe County, Nevada; about 100 feet east and 200 feet north of the southwest corner of section 29, T.47 N. R.19 E.; 41 degrees, 57 minutes, 35 seconds north latitude and 119 degrees, 53 minutes, 08 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in the moisture control section for 60 consecutive days or more during the 3 month period following the winter solstice and dry for 60 to 80 consecutive days during the 3 month period following the summer solstice; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 54 degrees F.

Mean summer soil temperature: 65 to 71 degrees F.

Mollic epipedon thickness: 7 to 18 inches, includes parts of the Bt horizons in some pedons.

Depth to base of argillic horizon: 10 to 20 inches.

Depth to bedrock: 10 to 20 inches to a lithic contact.

Control section:

Clay content—24 to 35 percent.

Rock fragments—Averages 35 to 60 percent, mainly gravel and cobbles. Lithology of fragments are mainly basalt and similar volcanic rocks.

Base saturation—Greater than 75 percent.

A horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 (average 5.5 or less when mixed) dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Reaction—Neutral to moderately alkaline.

Organic matter content—1 to 4 percent.

Other features—Some pedons have vesicular pores in the upper 1 or 2 inches.

Bt horizons:

Hue—10YR or 7.5YR.

Value—5 or 6 dry, 2 through 4 moist.

Chroma—2 or 3, dry or moist.

Texture—Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam, very cobbly clay loam, very cobbly loam, very cobbly sandy clay loam, very stony clay loam, or extremely cobbly clay loam; average size and quantity of fragments often increases with depth.

Clay content—24 to 35 percent.
 Rock fragments—35 to 70 percent.
 Reaction—Neutral to moderately alkaline.
 Organic matter content—0 to 2 percent.
 Effervescence—Slightly effervescent or strongly effervescent in the lower part of the Bt2 horizon, on the surface of the lithic contact, or in cracks within the bedrock, where identifiable secondary carbonates are present.
 Calcium carbonate equivalent—0 to 2 percent.

Rodock series

The Rodock series consists of very deep, well drained soils that formed in alluvium from mixed rock sources with additions of loess and volcanic ash. The Rodock soils are on inset fans. Slopes are 0 to 2 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Duridic Haploxerolls

Typical pedon: Rodock gravelly sandy loam in an area of Humboldt County, NV, East Part, rangeland. (Colors are for dry soil unless otherwise noted.)

- A1—0 to 2 inches; brown (10YR 5/3) gravelly sandy loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine roots; many very fine, fine and medium vesicular pores; 15 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.
- A2—2 to 11 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure parting to moderate fine granular; soft, very friable, slightly sticky and slightly plastic; many very fine and common fine roots; many very fine and fine interstitial pores; 10 percent pebbles; neutral (pH 7.2); abrupt smooth boundary.
- A3—11 to 15 inches; brown (10YR 5/3) loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; many very fine and fine interstitial pores; slightly alkaline (pH 7.4); clear wavy boundary.
- Bw—15 to 20 inches; pale brown (10YR 6/3) gravelly loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine to coarse roots; common very fine and fine tubular

pores; few thin silica coats on faces of peds in the lower part; 20 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bq—20 to 27 inches; pale brown (10YR 6/3) gravelly sandy loam, dark brown (10YR 3/3) moist; massive; very hard, firm, nonsticky and slightly plastic; few very fine roots; common very fine and fine tubular pores; continuous brittle matrix; 50 percent strongly cemented durinodes and irregular masses; 30 percent pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

2Bqk1—27 to 31 inches; pale brown (10YR 6/3) very gravelly loamy coarse sand, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine and fine tubular and interstitial pores; continuous brittle matrix; 25 percent strongly cemented durinodes and masses; few thin lime and silica pendants on rock fragments; few fine soft filaments of lime; 50 percent pebbles, 2 percent cobbles; moderately alkaline (pH 8.4); clear wavy boundary.

2Bqk2—31 to 60 inches; pale brown (10YR 6/3) extremely gravelly coarse sand, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, nonsticky and nonplastic; common fine and medium roots; many very fine and fine interstitial pores; many thin lime and silica pendants on rock fragments; 55 percent pebbles, 15 percent cobbles; strongly effervescent; strongly alkaline (pH 8.6).

Type location: Humboldt County, Nevada; approximately one mile northwest of the Kings River Ranch headquarters; about 300 feet north and 2,500 feet east of the southwest corner of section 16, T.46 N., R.33 E.; 41 degrees, 51 minutes, 37 seconds north latitude and 118 degrees, 15 minutes, 27 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, October to late June. Dry from mid July to mid October. Aridic moisture regime bordering on Xeric.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon: 10 to 19 inches thick.

Depth to continuous brittle matrix: 20 to 30 inches.

Depth to secondary carbonates: 20 to 40 inches.

Control section:

Clay content—Averages 10 to 18 percent.

Rock fragments—Averages 35 to 60 percent, mainly pebbles.

A horizon:

Chroma—2 or 3.

Reaction—Neutral or slightly alkaline.

Bw horizon:

Value—5 or 6 dry, 3 or 4 moist.

Chroma—2 or 3.

Texture—Loam, very fine sandy loam or fine sandy loam.

Clay content—15 to 25 percent.

Rock fragment—0 to 30 percent, mainly pebbles.

Reaction—Neutral to moderately alkaline.

Bq and Bqk horizons:

Value—5 through 7 dry, 3 or 4 moist.

Chroma—2 through 4.

Texture—Stratified; the upper part is loam to gravelly sandy loam and the lower part is very gravelly loam to extremely gravelly coarse sand.

Reaction—Slightly alkaline to strongly alkaline.

Consistence—Subhorizons have continuous brittle matrix; strongly cemented durinodes and coarse masses or pendants are in most pedons.

Runyon series

The Runyon series consists of moderately deep to soft bedrock, well drained soils that formed in volcanic ash and residuum and colluvium from volcanic rocks.

Runyon soils are on backslopes of mountains and plateaus. Slopes are 8 to 30 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, frigid Vitrandic Argixerolls

Typical pedon: Runyon cobbly loam in an area of map unit 422, rangeland (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 5 percent stones, 10 percent cobbles and 10 percent gravel.

A1—0 to 2 inches; brown (7.5YR 4/3) cobbly loam, dark brown (7.5YR 3/2) moist; moderate very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine vesicular and tubular pores; 5 percent stones, 10 percent cobbles, 10 percent gravel; moderately acid (pH 5.9); clear wavy boundary.

A2—2 to 5 inches; brown (7.5YR 4/3) loam, dark brown (7.5YR 3/2) moist; moderate very fine and fine subangular blocky structure; soft, very friable, slightly sticky and moderately plastic; many very fine and fine roots; many very fine vesicular and tubular pores; slightly acid (pH 6.1); clear wavy boundary.

BAt—5 to 9 inches; brown (7.5YR 4/3) gravelly loam, dark reddish brown (5YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine to medium roots; many very fine tubular pores; 20 percent distinct dark reddish brown (5YR 3/2) clay films on faces of peds and lining pores; 5 percent cobbles, 20 percent gravel; slightly acid (pH 6.4); clear wavy boundary.

Bt1—9 to 19 inches; brown (7.5YR 5/3) gravelly loam, dark brown (7.5YR 3/3) moist; moderate medium subangular blocky structure; very hard, very friable, moderately sticky and moderately plastic; many very fine to medium roots; many very fine and fine tubular pores; 20 percent distinct brown (7.5YR 4/3) clay films on faces of peds and lining pores, dark reddish brown (5YR 3/2), moist; 5 percent cobbles, 20 percent gravel; neutral (pH 6.6); clear wavy boundary.

Bt2—19 to 25 inches; brown (7.5YR 4/3) gravelly loam, brown (7.5YR 4/2) moist; weak coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine and common fine and medium roots; many very fine and fine tubular pores; 30 percent distinct dark reddish brown (5YR 3/2) moist clay films on faces of peds and lining pores; 5 percent cobbles, 15 percent gravel; neutral (pH 6.6); clear wavy boundary.

Bt3—25 to 37 inches; brown (7.5YR 5/3) cobbly loam, reddish brown (5YR 4/3), moist; weak medium and coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine, fine and medium roots; many very fine and fine tubular pores; 30 percent distinct brown (7.5YR 4/3) clay films, dark reddish brown (5YR 3/3), moist on faces of peds and lining pores; 1 percent stones, 20 percent cobbles and 10 percent gravel; neutral (pH 6.6); clear irregular boundary.

Cr—37 to 56 inches; light reddish brown (5YR 6/3) soft, weathered vesicular basalt with some reddish brown (5YR 4/4), moist soil in some fractures; fractures 5 to 25 centimeters apart; 10 percent prominent clay films on rock fragments; neutral (pH 6.7); clear irregular boundary.

Cr—56 to 72 inches; soft, weathered vesicular basalt; 10 percent pockets of soil in some fractures; fractures about 15 to 50 centimeters apart; neutral (pH 6.7).

Type location: Washoe County, Nevada; about 100 feet north of Buckhorn road; approximately 1,300 feet east and 1,400 feet south of the northwest corner of section 27, T.35 N., R.18 E.; 40 degrees, 52 minutes, 50 seconds north latitude, 119 degrees, 57 minutes, 6 seconds west longitude; NAD27; Burnt Lake 7.5 minute USGS Quadrangle.

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring, dry July through October; xeric moisture regime that borders on aridic.

Soil temperature: 45 to 47 degrees F.

Mollic epipedon thickness: 10 to 20 inches, includes the upper argillic horizon.

Depth to paralithic contact: 20 to 40 inches.

Sodium flouride pH: 8.6 through 9.4.

Base saturation: 60 to 75 percent by sum of cations.

Control section:

Clay content—25 to 35 percent.

Rock fragments—15 to 35 percent, mainly andesite and basalt cobbles and pebbles.

A horizon:

Hue—7.5YR or 5YR.

Value—2 or 3 moist.

Chroma—2 or 3.

Volcanic ash—Glass content is 5 to 15 percent in the 0.2 to 2.0 millimeter fraction; product of $(A_1 + 1/2 Fe \times 60)$ plus glass is greater than 30.

Reaction—Moderately acid to neutral.

Bt1 horizon:

Value—4 or 5, dry; 2 or 3, moist.

Chroma—2 or 3.

Clay content—20 to 30 percent.

Rock fragments—15 to 35 percent, mainly gravel.

Texture—Clay loam or loam.

Structure—Moderate or strong subangular blocky.

Volcanic ash—Glass content is 5 to 15 percent in the 0.2 to 2.0 millimeter fraction; product of $(A_1 + 1/2 Fe \times 60)$ plus glass is greater than 30.

Reaction—Slightly acid or neutral.

Bt2 and Bt3 horizons:

Hue—7.5YR or 5YR.

Value—4 or 5, dry; 3 or 4 moist.

Chroma—3 through 6.

Clay content—25 to 35 percent.

Texture—Clay loam or loam.

Rock fragments—15 to 30 percent gravel and cobbles and 0 to 5 percent stones.

Structure—Subangular blocky or angular blocky.

Reaction—Neutral or slightly alkaline

Saltmount series

The Saltmount series consists of very deep, well drained soils that formed in eolian deposits over lacustrine deposits. Saltmount soils are on parna dunes and dissected lake plains. Slopes are 0 to 30 percent. The mean annual precipitation is about 6 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Very-fine, mixed, superactive, mesic Typic Haplosalids

Typical pedon: Saltmount silty clay loam, located in map unit 547, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 2 inches; very pale brown (10YR 7/3) silty clay loam, brown (10YR 5/3) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine interstitial pores; violently effervescent; strongly alkaline (pH 8.6); abrupt wavy boundary.

Bz1—2 to 8 inches; very pale brown (10YR 7/3) clay, brown (10YR 5/3) moist; strong very fine subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; few very fine and fine roots; many very fine interstitial pores; 30 percent salt crystals; violently effervescent; strongly alkaline (pH 8.8); clear wavy boundary.

Bz2—8 to 20 inches; very pale brown (10YR 7/3) clay, brown (10YR 5/3) moist; moderate very fine subangular blocky structure; soft, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine interstitial pores; 20 percent salt crystals; violently effervescent; very strongly alkaline (pH 9.6); clear wavy boundary.

C1—20 to 33 inches; very pale brown (10YR 7/3) clay, brown (10YR 5/3) moist; massive; soft, very friable, moderately sticky and moderately plastic; common very fine roots; many very fine interstitial pores; violently effervescent; very strongly alkaline (pH 9.3); clear wavy boundary.

C2—33 to 60 inches; very pale brown (10YR 7/3) clay, brown (10YR 5/3) moist; massive; soft, very friable, moderately sticky and moderately plastic; few very fine roots; many interstitial pores; violently effervescent; very strongly alkaline (pH 9.3); clear wavy boundary.

Type location: Modoc County, California; on the northeast side of Lower Lake near the California and Nevada line in Surprise Valley; unsectionized; T.39 N., R.17 E.; 41 degrees, 16 minutes, 34.1 seconds north latitude and 120 degrees, 01 minute, 05.2 seconds west longitude. NAD27. USGS Eagleville 7.5 minute topographic quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring, dry late May through November. Typic aridic soil moisture regime.

Soil temperature: 47 to 50 degrees F.

Control section:

Clay content—5 to 15 percent.

A horizon:

Hue—10YR or 2.5Y.

Value—7 or 8 dry, 4 through 6 moist.

Chroma—2 or 3.

Structure—Weak to strong very fine or fine subangular blocky or granular.

Consistence—Soft or slightly hard.

Reaction—Strongly alkaline or very strongly alkaline.

Effervescence—Strongly or violently effervescent.

SAR—30 to 50.

Bz1 horizon:

Hue—10YR or 2.5Y.

Value—6 through 8 dry, 4 through 6 moist.

Chroma—2 or 3.

Structure—Moderate or strong very fine to medium subangular blocky or fine and medium prismatic parting to subangular blocky.

Effervescence—Strongly or violently effervescent.

Reaction—Strongly alkaline or very strongly alkaline.

Texture—Clay or silty clay.

Salt content—25 to 50 percent

Sodicity—SAR 100 to 3000.

Salinity (EC)—400 to 800 mmhos/cm.

Bz2 horizon:

Hue—5Y or 2.5Y.

Value—7 or 8 dry, 4 through 6 moist.

Chroma—2 through 4.

Structure—Weak or moderate very fine or fine subangular blocky

Reaction—Strongly alkaline or very strongly alkaline.

Effervescence—Strongly effervescent or violently effervescent.

Salt content—15 to 25 percent

SAR—100 to 3000.

Salinity (EC)—300 to 600 mmhos/cm

C1 and C2 horizons:

Hue—5Y or 2.5Y.

Value—7 or 8 dry, 4 through 6 moist.

Chroma—2 through 4.

Effervescence—Strongly effervescent or violently effervescent.

Sodicity—SAR 50 to 3000.

Salinity (EC)—100 to 200 mmhos/cm

Saraph series

The Saraph series consists of shallow, well drained soils that formed in residuum derived from tuff. Saraph soils are on pediments and plateaus. Slopes are 2 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy, glassy, mesic, shallow Vitrixerandic Haplargids

Typical pedon: Saraph ashy loamy sand in an area of Humboldt County, NV, West Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) ashy loamy sand, dark grayish brown (10YR 4/2) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine and fine vesicular pores; 5 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

A2—2 to 4 inches; light brownish gray (10YR 6/2) ashy sandy loam, dark grayish brown (10YR 4/2) moist; weak fine granular structure; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; many very fine tubular pores; 5 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

Bt1—4 to 9 inches; pale brown (10YR 6/3) ashy sandy loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, slightly sticky and slightly plastic; common very fine and common fine roots; many very fine tubular pores; few faint clay films on faces of peds; 10 percent pebbles; neutral (pH 7.0); abrupt smooth boundary.

Bt2—9 to 16 inches; pale brown (10YR 6/3) ashy clay loam, brown (10YR 4/3) moist; strong fine subangular blocky structure; hard, firm, moderately sticky and moderately plastic; common very fine and common fine roots; many very fine tubular pores; many faint clay films on faces of peds; 10 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Cr—16 inches; soft tuff; few fine coats of secondary carbonate at the soil-bedrock contact.

Type location: Humboldt County, Nevada; about 0.5 mile east of Wildcat Gorge; 2,800 feet east and 400 feet north of the southwest corner of section 28, T.42 N., R.24 E.; USGS Badger Mountain SE 7.5 minute topographic quadrangle; 41 degrees, 32 minutes, 02 seconds north latitude and 119 degrees, 16 minutes, 16 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring; dry from late June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees F.

Depth to base of argillic horizon: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches to a paralithic contact. The paralithic materials below the contact are vitric tuffs.

Control section:

Clay content—Averages 18 to 30 percent.

Rock fragments—0 to 15 percent, mainly pebbles.

Lithology of fragments are tuff or basalt.

Volcanic glass content—45 to 70 percent in the coarse silt through fine sand fractions.

Reaction—Neutral or slightly alkaline.

A horizons:

Value—3 or 4 moist.

Chroma—2 or 3, dry or moist.

Bt1 horizon:

Value—5 or 6 dry, 3 or 4 moist.

Texture—Ashy sandy loam or ashy sandy clay loam.

Clay content—15 to 25 percent.

Rock fragments—0 to 15 percent.

Bt2 horizon:

Value—5 or 6 dry, 3 or 4 moist.

Texture—Ashy sandy clay loam or ashy clay loam.

Clay content—20 to 35 percent.

Rock fragments—0 to 15 percent.

Structure—Moderate or strong, fine or medium, angular blocky or subangular blocky.

Other features—Some pedons may be slightly effervescent and have few or common masses of identifiable secondary carbonates.

Schamp Series

The Schamp series consists of very deep, well drained soils that formed in mixed alluvium and colluvium from

tuff, andesite and basalt with admixtures of volcanic ash. The Schamp soils are on foothills, mountain side slopes and ridges. Slopes are 4 to 50 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Fine, smectitic, mesic Xeric Haplargids

Typical pedon: Schamp very stony loam, in an area of Washoe County, NV, North Part, rangeland. (Colors for dry soil unless otherwise noted). The soil surface is covered with 10 percent stones, 5 percent cobbles, and 15 percent pebbles.

A—0 to 5 inches; light brownish gray (10YR 6/2) very stony loam, very dark grayish-brown (10YR 3/2) moist; moderate very thin and thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 10 percent stones, 5 percent cobbles and 15 percent pebbles; neutral (pH 7.0); clear smooth boundary.

Bt1—5 to 8 inches; light brownish gray (10YR 6/2) clay loam, dark brown (10YR 3/3) moist; moderate fine subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine and few fine and medium roots; many very fine tubular pores; few thin clay films on faces of peds and in pores; neutral (pH 7.2); abrupt wavy boundary.

Bt2—8 to 15 inches; brown (10YR 5/3) clay, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure; hard, friable, very sticky and very plastic; many very fine and fine and few medium roots; many very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; neutral (pH 7.2); clear wavy boundary.

Bt3—15 to 20 inches; brown (10YR 5/3) clay, dark brown (10YR 3/3) moist; weak fine prismatic structure parting to moderate medium subangular blocky; hard, friable, very sticky, very plastic; common very fine and fine and few medium roots; many very fine tubular pores; common thin and moderately thick clay films on faces of peds and in pores; slightly alkaline (pH 7.7); clear wavy boundary.

Btk—20 to 32 inches; pale brown (10YR 6/3) clay loam, brown (10YR 4/3) moist; moderate coarse subangular blocky structure; hard, very friable, very sticky and very plastic; common very fine and few fine roots; common very fine tubular pores; common thin clay films on faces of peds and in pores; 10 percent pebbles; few thin lime coats on underside of pebbles; noneffervescent matrix; moderately alkaline (pH 8.2); clear wavy boundary.

Ck—32 to 43 inches; pale brown (10YR 6/3) sandy clay loam, brown (10YR 4/3) moist; massive; hard, very friable, sticky, plastic; common very fine and fine roots; common very fine tubular pores; 5 percent pebbles and 5 percent cobbles; few thin lime coats on underside of rock fragments; few small soft masses of lime; noneffervescent matrix; strongly alkaline (pH 8.5); clear wavy boundary.

2C2—43 to 60 inches; pale brown (10YR 6/3) very cobbly loam, brown (10YR 4/3) moist; massive; slightly hard, friable, slightly sticky, slightly plastic; few fine roots; common very fine tubular pores; 25 percent cobbles and 20 percent pebbles; slightly effervescent; strongly alkaline (pH 8.9).

Type location: Washoe County, Nevada; about 1.8 miles east of the Nevada-California state line on the east side of Surprise Valley; about 1,100 feet east and 400 feet south of the northwest corner of section 15, T.42 N., R.18 E.; 41 degrees, 34 minutes, 00 seconds north latitude and 119 degrees, 57 minutes, 45 seconds west longitude NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer and fall.

Soil temperature: 47 to 50 degrees F.

Control section:

Clay content—35 to 50 percent.

A horizon:

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 or 3

Reaction—Neutral or slightly alkaline

Bt horizons:

Hue—10YR or 7.5YR

Value—5 or 6 dry, 3 or 4 moist

Chroma—2 through 4

Structure—Weak or moderate, fine to coarse prismatic, subangular blocky or angular blocky

Reaction—Neutral to moderately alkaline

Texture—Clay or clay loam

Clay content—35 to 50 percent

Rock fragments—0 to 15 percent

Thickness—24 to 32 inches

Btk horizons:

Secondary lime accumulations—Few to many fine to coarse soft masses

Effervescence—Noneffervescent or slightly effervescent matrix

C and 2C:

Value—5 through 7 dry, 4 or 5 moist

Chroma—2 or 3

Texture—Sandy loam, sandy clay loam, gravelly sandy clay loam or very cobbly loam

Clay content—10 to 25 percent

Rock fragments—15 to 80 percent increasing with depth, mainly pebbles and cobbles

Reaction—Strongly alkaline or very alkaline

Effervescence—Noneffervescent to strongly effervescent in the upper part. Slightly effervescent to violently effervescent in the lower part

Secondary lime accumulations—None to many fine to coarse soft masses

SAR—13 to 30 in the Bt2 and Bt3 horizons

Electrical conductivity—4 to 8 millimhos per centimeter

Searles series

The Searles series consists of moderately deep, well drained soils that formed in colluvium and residuum weathered from rhyolite and basalt. Searles soils are on mountains. Slopes are 30 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Searles very cobbly loam in an area of Susanville Area, Parts of Lassen and Plumas Counties, CA, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; dark grayish brown (10YR 4/2) very cobbly loam, very dark brown (10YR 2/2) moist, weak fine and medium angular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine, fine and few medium roots, many very fine and fine tubular and interstitial pores; 10 percent stones, 20 percent cobbles, 20 percent gravel; neutral (pH 6.6); clear wavy boundary.

A2—3 to 13 inches; grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak and moderate fine and medium angular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; few medium, many very fine and fine roots, many very fine and common fine tubular and interstitial pores; 15 percent cobbles, 30

percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bt1—13 to 21 inches; light brownish gray (10YR 6/2) very gravelly clay loam, dark grayish brown (10YR 4/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, sticky and plastic, common fine and medium, few coarse and many very fine roots, many very fine, few fine and medium, tubular and interstitial pores; common thin clay films occur as bridges holding mineral grains together; 10 percent cobbles, 35 percent gravel; neutral (pH 7.0); gradual wavy boundary.

Bt2—21 to 29 inches; light brownish gray (10YR 6/2) very gravelly clay loam, dark grayish brown (10YR 4/2) moist; moderate medium and coarse subangular blocky structure; hard, friable, sticky and plastic; common very fine and few fine roots, many very fine and few fine tubular and interstitial pores; common moderately thick clay films on faces of peds and in pores; 10 percent cobbles, 50 percent gravel; neutral (pH 7.0); abrupt irregular boundary.

R—29 to 33 inches; fractured basalt, weathered in upper 2 to 3 inches, some thin clay coatings along fractures that are 4 to 12 inches apart.

Type location: Near the Shaffer Mountain TV relays, about 1,400 feet east and 2,000 feet north of the southwest corner of Sec. 24, T.30 N., R.14 E.; 40 degrees, 26 minutes, 41 seconds north latitude and 120 degrees, 21 minutes, and 19 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: The soils are continuously dry between depths of 4 and 12 inches during the 3-month period following the summer solstice and are dry throughout between depths of 4 and 12 inches for more than half the time (cumulative) when the soil temperature is above 41 degrees F.; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 54 degrees F.

Mollic epipedon thickness: 10 to 18 inches.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Particle-size control section:

Clay content—Averages 25 to 35 percent.

Rock fragments—Averages 50 to 70 percent, mainly gravel and cobbles. Lithology of fragments are volcanic rocks such as rhyolite and basalt.

Other features—The percentage of the soil surface covered with stones and cobbles ranges from 0.1 to 15 percent.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Loam or sandy loam.

Rock fragments—0 to 50 percent.

Structure—Weak to moderate; platy, granular, angular blocky, or subangular blocky.

Reaction—Slightly acid through slightly alkaline.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 through 5 moist.

Chroma—3 or 4, dry or moist.

Texture—Loam, sandy clay loam, clay loam, or silty clay loam.

Clay content—25 to 40 percent.

Rock fragments—45 to 80 percent.

Fine sand or coarser content—More than 15 percent.

Structure—Weak or moderate; prismatic, subangular blocky, or angular blocky.

Reaction—Neutral or slightly alkaline.

Sedsked series

The Sedsked series consists of shallow, well drained soils that formed in residuum and colluvium derived from metasedimentary rocks. Sedsked soils are on plateaus. Slopes are 30 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haplargids

Typical pedon: Sedsked extremely gravelly loam in an area of map unit 560, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 1 inch; light yellowish brown (2.5Y 6/4) extremely gravelly loam, brown (10YR 4/3) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine roots; common very fine tubular pores; 65 percent metasedimentary pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

A2—1 to 3 inches; light olive brown (2.5Y 5/4) extremely gravelly loam, olive brown (2.5Y 4/3) moist; moderate very fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine roots; common very fine tubular pores; 65 percent metasedimentary pebbles; slightly alkaline (pH 7.8); clear wavy boundary.

Bt1—3 to 6 inches; light yellowish brown (10YR 6/4) very gravelly sandy clay loam, brown (10YR 4/3) moist; moderate very fine and fine subangular blocky structure; slightly hard, very friable; moderately sticky and moderately plastic; many very fine and common medium roots; many very fine tubular pores; common distinct clay films on faces of peds and lining pores; 50 percent metasedimentary gravel; moderately alkaline (pH 8.2); clear wavy boundary.

Bt2—6 to 11 inches; light yellowish brown (10YR 6/4) very gravelly clay loam, dark yellowish brown (10YR 4/4) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine, fine, and few medium roots; many very fine interstitial pores; common distinct clay films on faces of peds and lining pores; 50 percent metasedimentary gravel; moderately alkaline (pH 8.2); abrupt wavy boundary.

Cr—11 to 21 inches weathered and highly fractured metasedimentary rock; common very fine horizontal roots on plates where fractured; common distinct clay films in fractures.

R—21 inches; hard metasedimentary rock;

Type location: Washoe County, Nevada; about 1 mile west of Duck Flat on Tuledad Canyon road; about 1,200 feet east and 1,100 feet north of the southwest corner of section 34, T.37 N., R.18 E.; 41 degrees, 02 minutes, 32.75 seconds north latitude and 119 degrees, 57 minutes, 28.07 seconds west longitude; NAD27; Duck Lake 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, moist November through May, dry from June through mid-October; aridic soil moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to weathered bedrock: 10 to 14 inches.

Control section:

Clay content: 22 to 30 percent.

Rock fragments—50 to 75 percent metasedimentary gravel.

A horizon:

Value—5 through 7, dry; 3 or 4, moist.

Chroma—2 through 4.

Reaction—Slightly alkaline or moderately alkaline.

Bt horizon:

Hue—10YR or 7.5YR

Value—4 through 7, dry; 3 through 5, moist.

Chroma—2 through 4.

Texture—Sandy clay loam, clay loam.

Clay content—24 to 35 percent.

Rock fragments—50 to 75 percent, mainly gravel.

Structure—Subangular blocky.

Reaction—Slightly alkaline or moderately alkaline.

Sesdah series

The Sesdah series consists of shallow, well drained soils that formed in volcanic ash and colluvium over residuum derived from glassy tuff-breccia. Sesdah soils are on mountains. Slopes are 30 to 75 percent. The mean annual precipitation is about 20 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Ashy, glassy, frigid, shallow Vitrandic Argixerolls

Typical pedon: Sesdah gravelly ashy loam in an area of map unit 424, rangeland. (Colors are for dry soil unless otherwise noted).

A1—0 to 2 inches; dark grayish brown (10YR 4/2), gravelly ashy loam, very dark brown (10YR 2/2), moist; moderate fine granular structure; soft, very friable, slightly sticky, slightly plastic; many very fine roots; many very fine interstitial and few very fine tubular pores; 15 percent pebbles; neutral, (pH 6.8); clear wavy boundary.

A2—2 to 5 inches; brown (10YR 4/3), gravelly ashy loam, very dark brown (10YR 2/2), moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; many very fine and fine roots and few medium roots; few very fine tubular and many very fine interstitial pores; 15 percent pebbles; neutral, (pH 6.9); clear wavy boundary.

Bt1—5 to 10 inches; brown (10YR 4/3), gravelly ashy loam, very dark brown (10YR 2/2), moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, moderately sticky, moderately plastic; common very fine to medium roots; common very fine interstitial and tubular pores; 30 percent faint clay films on surfaces along pores and 30 percent faint clay films on all faces of peds; 10 percent paragravel and 20 percent hard pebbles; neutral, (pH 6.9); clear wavy boundary.

Bt2—10 to 16 inches; brown (10YR 4/3), very gravelly ashy sandy clay loam, very dark brown (10YR 2/2), moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; common very fine and fine roots and few medium roots; common very fine interstitial and

tubular pores; 30 percent faint clay films on all faces of peds and 30 percent faint clay films on surfaces along pores; 5 percent cobbles, 30 percent paragravel and 35 percent hard pebbles; neutral, (pH 6.9); clear irregular boundary.

Cr—16 to 20 inches; weathered tuff-breccia.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 350 feet south and 1,700 feet east of the northwest corner of section 31, T.42 N., R.16 E.; Warren Peak USGS 7.5 minute topographic quadrangle; 41 degrees, 28 minutes, 13.9 seconds north latitude and 120 degrees, 11 minutes, 32.1 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 43 to 47 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches to weathered bedrock.

The paralithic materials below the contact are pyroclastic tuff-breccia.

Profile reaction: Slightly acid or neutral.

Particle-size control section:

Clay content—Averages 18 to 27 percent, (field estimates).

Rock fragments—Average 15 to 35 percent, mainly gravel.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 2 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam, ashy sandy loam or ashy sandy clay loam.

Clay content—18 to 27 percent.

Rock fragments—Average 15 to 35 percent, dominantly pebbles. Paragravel generally increases with depth in the profile.

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—1 to 2 percent.

Simpson series

Simpson series consists of very deep, well drained soils on fan remnants. These soils formed in volcanic ash and alluvium superimposed over lacustrine material, both of which were derived mainly from tuffs, basalts and andesites. Slopes range from 0 to 15 percent. Mean annual precipitation is about 14 inches, most of which comes in the form of snow. The mean annual air temperature is about 48 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Argixerolls

Typical pedon: Simpson ashy sandy loam in an area of map unit 563, rangeland. (Colors are for dry soil unless otherwise stated).

A—0 to 2 inches; dark grayish brown (10YR 4/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, nonsticky, nonplastic; many very fine roots; many very fine interstitial pores; slightly acid (pH 6.4); abrupt smooth boundary.

E—2 to 4 inches; light brownish gray (10YR 6/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium platy structure; soft, very friable, slightly sticky, slightly plastic; many very fine roots; many very fine interstitial and tubular pores; common clean sand grains; neutral (pH 6.6); abrupt wavy boundary.

Bt1—4 to 7 inches; dark grayish brown (10YR 4/2) ashy sandy clay loam, dark brown (10YR 3/3) moist; moderate coarse prismatic structure; hard, friable, moderately sticky, moderately plastic; common very fine and fine roots; common very fine tubular pores; many thin clay films as bridges between sand grains and in pores; common thin clay films on faces of peds; neutral (pH 6.8); clear wavy boundary.

Bt2—7 to 12 inches; brown (10YR 4/3) ashy clay, dark brown (10YR 3/3) moist; strong medium and coarse prismatic structure; very hard, firm, very sticky, very plastic; many very fine roots between peds and few very fine and fine roots throughout; common very fine tubular pores; many thin, and few moderately thick dark brown (10YR 3/3) clay films on faces of peds and in pores; neutral (pH 6.8); gradual smooth boundary.

Bt3—12 to 17 inches; brown (10YR 4/3) ashy clay, dark brown (10YR 3/3) moist; moderate coarse prismatic structure; very hard, firm, very sticky, very plastic; many very fine roots between peds, and few very fine

and medium roots throughout; common very fine tubular pores; many thin and few moderately thick dark brown (10YR 3/3) clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

Bt4—17 to 23 inches; brown (10YR 4/3) ashy sandy clay loam, dark brown (10YR 3/3) moist; moderate medium and coarse prismatic structure; hard, friable, moderately sticky, moderately plastic; few very fine, fine, and medium roots; few very fine interstitial, and common very fine tubular pores; common thin dark brown (10YR 3/3) clay films on faces of peds and in pores; neutral (pH 7.0); clear wavy boundary.

C1—23 to 31 inches; brown (10YR 4/3) ashy sandy loam, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, nonsticky, nonplastic; few very fine and fine roots; common very fine, and few fine tubular pores; neutral (pH 7.0); clear wavy boundary.

C2—31 to 37 inches; pale brown (10YR 6/3) gravelly ashy loamy sand, dark brown (10YR 3/3) moist; massive; slightly hard, very friable, nonsticky, nonplastic; few very fine and fine roots; few very fine tubular, and many very fine interstitial pores; 25 percent gravel; slightly alkaline (pH 7.4); clear wavy boundary.

2Ck—37 to 48 inches; very dark gray (10YR 3/1) and dark gray (10YR 4/1) and gray (10YR 5/1) extremely gravelly ashy sand, very dark gray (10YR 3/1) and dark gray (10YR 4/1) moist; single grain; loose, nonsticky, nonplastic; common very fine and fine roots; many very fine and fine, and few medium interstitial pores; 60 percent gravel; common 0.1 to 1 millimeter thick, very pale brown (10YR 8/2) lime coatings on bottom of rock fragments; moderately alkaline (pH 8.0).

Type location: Modoc County, California; about 1.8 miles north of the center of Cedarville, and about 550 feet south and 2,650 feet east of the northwest corner of section 32, T.43 N., R.16 E.; Mount Diablo base line and meridian; 41 degrees, 33 minutes, 26.0 seconds north latitude and 120 degrees, 10 minutes, 18.9 seconds west longitude, NAD27; Cedarville quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, dry during summer and fall months in most years, moist in winter and spring. Soil moisture regime is aridic bordering xeric.

Soil temperature: Mean annual soil temperature ranges from 47 to 53 degrees F.

Mollic epipedon thickness: 20 to 21 inches, includes most or all of the argillic horizon.

Solum thickness: 21 to 27 inches.

Depth to the unconformable 2C horizons: 24 to 38 inches.

Volcanic glass content: 30 to 60 percent volcanic glass and glass aggregates in the coarse silt to fine sand fraction.

A horizon:

Values—4 or 5 dry, and 2 or 3 moist.

Chroma—2 or 3.

Structure—Massive or weak or moderate, very thin to medium platy.

Consistence—Soft or slightly hard when dry.

Organic matter—1 to 2 percent.

Reaction—Slightly acid to slightly alkaline.

Carbonates—Noneffervescent.

E horizon:

Value—6 or 7 dry, and 3 or 4 moist.

Chroma—1 or 2 dry; 2 moist.

Structure—Weak thin or medium platy; weak or moderate, very fine or fine granular; or weak or moderate, very fine or fine subangular blocky.

Reaction—Slightly acid to slightly alkaline.

Carbonates—Noneffervescent.

Other features—In some areas the E horizon is lacking and only occurs as a scattering of bleached sand grains on prism tops.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, and 3 or 4 moist.

Chroma—2 or 3.

Texture—Ashy clay loam, ashy clay, ashy sandy clay loam or ashy sandy clay.

Clay content: Averages 35 to 50 percent.

Structure—Strong to weak, fine to coarse prismatic or subangular blocky.

Organic matter: 0.5 to 2 percent.

Reaction—Neutral.

Carbonates—Noneffervescent.

C horizon:

Value—4 through 6 dry, and 3 or 4 moist.

Chroma—2 or 3.

Texture—Stratified ashy sandy loam, ashy fine sandy loam, ashy loam, or ashy loamy sand; averages gravelly ashy sandy loam.

Rock fragments—Averages 10 to 30 percent, mainly gravel.

Clay content—Averages 5 to 10 percent.

Organic matter—0.5 to 1 percent.

Reaction—Neutral to slightly alkaline.

Carbonates—Noneffervescent.

2C horizon:

Value—3 through 7 dry, and 2 to 5 moist.

Chroma—1 to 3.

Texture—Stratified gravel to ashy sand; averages very gravelly ashy sand or extremely gravelly ashy sand.

Rock fragments—Averages 50 to 80 percent, mainly gravel.

Clay content—0 to 5 percent.

Organic matter—0 to 0.5 percent.

Reaction—Slightly alkaline or moderately alkaline.

Carbonates—Noneffervescent to strongly effervescent.

Other features—Color is dependent upon the color of the individual gravel and sand grains.

Skedaddle series

The Skedaddle series consists of very shallow and shallow, well drained soils that formed in residuum and colluvium derived from basalt. Skedaddle soils are on hills and plateaus. Slopes are 4 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Xeric Torriorthents

Typical pedon: Skedaddle very cobbly loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partly covered by approximately 25 percent pebbles, 20 percent cobbles, and 5 percent stones.

A1—0 to 2 inches; light brownish gray (10YR 6/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine roots; common very fine interstitial pores; 30 percent pebbles, 20 percent cobbles, and 5 percent stones; neutral (pH 7.0); clear smooth boundary.

A2—2 to 5 inches; light brownish gray (10YR 6/2) gravelly loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine, few fine, and few medium roots; common very fine tubular pores; 20 percent pebbles, 5 percent cobbles; neutral (pH 7.0); clear wavy boundary.

R—5 inches; hard basalt; fractured in the upper 2 to 4 inches.

Type location: Washoe County, Nevada; about 6 miles southwest of Lower Smoke Creek near Willow Canyon; 2,500 feet north and 400 feet west of the southeast corner of section 6, T.29 N., R.19 E.; USGS Red Rock Canyon 7.5 minute topographic quadrangle; 40 degrees, 24 minutes, 46 seconds north latitude and 119 degrees, 52 minutes, 59 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and early spring, dry from late spring through fall; arid moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 52 degrees.

Depth to bedrock: 4 to 12 inches to a lithic contact.

Control section:

Clay content—18 to 27 percent.

Rock fragments—Average 35 to 60 percent.

Lithology of fragments is basalt.

A horizons:

Value—5 or 6 dry, 3 or 4 moist; the upper 7 inches of the soil when mixed has value of 6 dry or 4 moist.

Chroma—2 or 3, dry or moist.

Texture—Very stony loam, very stony clay loam, very cobbly clay loam, gravelly loam, or very cobbly loam. Some pedons have surface texture of clay loam or very gravelly sandy loam.

Reaction—Neutral or slightly alkaline.

Skidbrackle series

The Skidbrackle series consists of shallow, well drained soils that formed in volcanic ash and colluvium over residuum derived from andesite, tuff-breccia and tuff. Skidbrackle soils are on mountains. Slopes are 2 to 30 percent. The mean annual precipitation is about 35 inches and the mean annual temperature is about 38 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Typical pedon: Skidbrackle very gravelly ashy loam in an area of map unit 521, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is partly covered by 45 percent gravel and 10 percent cobbles.

A1—0 to 1 inches; brown (10YR 5/3) very gravelly ashy loam, dark brown (10YR 3/3) moist; weak fine granular structure; soft, very friable, slightly sticky, slightly plastic; common very fine roots; common very fine interstitial pores; 5 percent cobbles and 45 percent pebbles; slightly acid, (pH 6.3); clear smooth boundary.

A2—1 to 4 inches; grayish brown (10YR 5/2) very gravelly ashy loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure; soft, very friable, slightly sticky, slightly plastic; common fine roots and many very fine roots; common very fine interstitial and tubular pores; 10 percent cobbles and 45 percent pebbles; slightly acid, (pH 6.4); clear wavy boundary.

Bt1—4 to 10 inches; brown (10YR 4/3) extremely gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky, moderately plastic; many very fine and fine roots; common very fine interstitial and tubular pores; common faint clay bridges between sand grains; 15 percent cobbles and 55 percent pebbles; slightly acid, (pH 6.5); clear wavy boundary.

Bt2—10 to 15 inches; brown (10YR 5/3) extremely gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, moderately sticky, slightly plastic; common very fine to medium roots; common very fine interstitial and tubular pores; common faint clay films on surfaces lining pores and common faint clay films on faces of peds; 15 percent cobbles and 55 percent pebbles; neutral, (pH 6.6); abrupt wavy boundary.

R—15 inches; hard andesite.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 2,300 feet north and 800 feet west of the southeast corner of section 33, T 48N., R 16E.; Mount Bidwell USGS 7.5 minute topographic quadrangle; 41 degrees, 59 minutes, 11 seconds north latitude and 120 degrees, 07 minutes, 59 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 41 to 45 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches to hard bedrock. The lithic materials below the contact are pyroclastic tuff-breccia or andesite.

Profile reaction: Slightly acid or neutral.

Particle-size control section:

Clay content: Averages 18 to 27 percent, (field estimates).

Rock fragments—60 to 80 percent, mainly gravel and cobbles. Fragment lithology is mostly andesitic tuff, tuff-breccia and andesite.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 2 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam or ashy sandy clay loam.

Clay content—18 to 27 percent.

Rock fragments—60 to 80 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—1 to 2 percent.

Skullwak series

The Skullwak series consists of very deep, poorly drained soils that formed in lacustrine deposits derived from mixed sources. Skullwak soils are on basin floors. Slopes are 0 to 2 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Fine, smectitic, calcareous, mesic Duric Halaquepts

Typical pedon: Skullwak silt loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 5 inches; light gray (10YR 7/2) silt loam, dark grayish brown (10YR 4/2) moist; moderate very thick platy structure; soft, friable, sticky and plastic; few very fine roots; many very fine vesicular pores; violently effervescent; very strongly alkaline (pH 9.4); clear smooth boundary.

C—5 to 11 inches; light gray (2.5Y 7/2) silty clay loam, olive brown (2.5Y 4/3) moist; moderate thin and medium platy structure; hard, friable, very sticky and very plastic; common very fine and fine roots; common very fine interstitial pores; violently effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

2Bqk—11 to 18 inches; light gray (5Y 7/2) silty clay loam, olive (5Y 4/3) moist; strong thin and medium platy structure; hard, friable, very sticky and very plastic; common very fine and fine roots; common very fine interstitial pores; 30 percent 15 to 25 millimeter durinodes; lime is disseminated; violently effervescent; strongly alkaline (pH 9.0); abrupt smooth boundary.

3Bqkg—18 to 36 inches; light gray (5Y 7/2) silty clay, olive (5Y 4/3) moist; strong medium and thick platy structure; hard, friable, very sticky and very plastic; common very fine and fine roots; few very fine tubular pores; 60 percent 15 to 25 millimeter durinodes; 20 percent grayish green (5G 5/2) moist iron depletions; lime is disseminated; slightly effervescent; strongly alkaline (pH 8.8); clear smooth boundary.

4Cg1—36 to 40 inches; light gray (5Y 7/2) silty clay, olive (5Y 5/3) moist; massive; hard, very friable, sticky and very plastic; few very fine roots; few very fine tubular pores; 10 percent grayish green (5G 5/2) moist iron depletions; slightly effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

4Cg2—40 to 60 inches; light gray (5Y 7/2) stratified silty clay loam and silty clay, olive (5Y 4/3) moist; massive; hard, friable, very sticky and very plastic; no roots observed; few very fine interstitial pores; 10 percent grayish green (5G 5/2) moist iron depletions; slightly effervescent; moderately alkaline (pH 8.2)

Type location: Washoe County, Nevada; about 1.6 miles northeast of Vya; about 950 feet north and 100 feet west of the southeast corner of section 28, T.43 N., R.19 E.; 41 degrees, 36 minutes, 54 seconds north latitude and 119 degrees, 50 minutes, 57 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in the moisture control section during winter, spring, and early summer, dry in late summer and fall; Xeric moisture regime.

Mean annual soil temperature: 47 to 52 degrees F.

Ochric epipedon thickness: 1 to 5 inches.

Depth to horizons with durinodes: 8 to 14 inches.

Particle-size control section:

Clay content—Averages 35 to 45 percent.

A horizon:

Value—7 or 8 dry, 4 through 6 moist.

Chroma—2 or 3, dry or moist.

Reaction—Moderately alkaline to very strongly alkaline.

Salinity (EC)—16 to 32 mmhos/cm.

Sodicity (SAR)—31 to 45.

Calcium carbonate equivalent—5 to 15 percent.

C, Bqk, and Cg horizons:

Hue—10YR, 2.5Y or 5Y.

Value—7 or 8 dry, 4 through 6 moist.

Chroma—2 through 4 in the upper part and 1 or 2 in the lower part, dry or moist.

Texture—Stratified silty clay loam to silty clay.

Reaction—Strongly alkaline or very strongly alkaline (up to pH 9.6).

Salinity (EC)—8 to 16 mmhos/cm.

Sodicity (SAR)—13 to 30.

Durinodes—15 to 80 percent, strongly cemented or moderately cemented in the Bqk horizons.

Effervescence—Slightly effervescent or violently effervescent.

Calcium carbonate equivalent—1 to 10 percent.

Redoximorphic features—Occurs in most horizons as zones of iron depletion and/or masses of iron accumulation. Cg horizons have strong gleying and redox concentrations of iron.

Snag series

The Snag series consists of very deep, well drained soils that formed in volcanic ash and glacial till derived from andesite. Snag soils are on ground moraines on mountains and plateaus. Slopes are 2 to 8 percent. The mean annual precipitation is about 15 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy-skeletal, glassy Vitrandic Argicryolls

Typical pedon: Snag very stony ashy sandy loam in an area of map unit 565, rangeland. The soil surface is partly covered with 1 percent stones and 2 percent boulders. (Colors are for dry soil unless otherwise noted.)

Al—0 to 4 inches; dark grayish brown (10YR 4/2) very stony ashy sandy loam, black (10YR 2/1) moist; weak coarse prismatic structure parting to moderate medium and coarse subangular blocky structure; slightly hard, very friable, slightly sticky and slightly

plastic; many very fine, fine and medium, common coarse roots; many very fine interstitial and vesicular pores; 20 percent stones, 15 percent cobbles and 10 percent hard volcanic gravel; neutral (pH 6.8); abrupt wavy boundary.

- A2—4 to 20 inches; dark grayish brown (10YR 4/2) extremely stony ashy sandy loam, very dark brown (10YR 2/2) moist; moderate medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine through coarse roots; many very fine tubular pores; 40 percent stones, 10 percent cobbles and 10 percent hard volcanic gravel; neutral (pH 6.7); clear wavy boundary.
- A3—20 to 30 inches; dark grayish brown (10YR 4/2) extremely stony ashy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine, common fine and few medium and coarse roots; many very fine and common fine tubular pores; 40 percent stones, 10 percent cobbles and 15 percent hard volcanic gravel; neutral (pH 6.9); clear wavy boundary.
- Bt1—30 to 41 inches; brown (7.5YR 5/3) very cobbly ashy sandy clay loam, dark brown (7.5YR 3/3) moist; moderate coarse subangular blocky structure; hard, very friable, sticky and plastic; common very fine and few fine and medium roots; common very fine and few fine and medium tubular pores; common distinct clay films on faces of peds and bridging mineral grains; 15 percent stones, 20 percent cobbles and 15 percent hard volcanic gravel; neutral (pH 7.1); clear wavy boundary.
- Bt2—41 to 62 inches; brown (7.5YR 5/2) very cobbly ashy sandy loam, brown (7.5YR 4/3) moist; weak coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; common very fine tubular pores; few faint clay films on faces of peds and bridging mineral grains; 5 percent stones, 15 percent cobbles and 30 percent hard volcanic gravel; neutral (pH 7.3).

Type location: Washoe County, Nevada; in the Hays Canyon Range; near Indian Pole Camp; unsectionized; T.39 N., R.18 E.; USGS Hays Canyon 7.5 minute topographic quadrangle; 41 degrees, 16 minutes, 28 seconds north latitude and 119 degrees, 54 minutes, 21 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring, dry in late summer and fall; completely dry for at least 45 consecutive days between July and October; xeric moisture regime.

Soil temperature: 41 to 46 degrees F.

Summer soil temperature: 54 to 59 degrees F.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Reaction: Slightly acid or neutral

Base saturation: 50 to 75 percent

Control section:

Texture—Ashy fine sandy loam, ashy loam or ashy sandy loam.

Clay content—Averages 18 to 24 percent; individual subhorizons range from 16 to 25 percent, decreasing with depth.

Rock fragments—50 to 80 percent, dominantly cobbles and stones.

Mollic epipedon thickness—30 to 45 inches.

A horizon:

Hue—7.5YR or 10YR.

Value—3 or 4 dry, 1 through 3 moist.

Chroma—1 or 2.

Texture—Ashy sandy loam, ashy fine sandy loam or ashy loam.

Rock fragments—45 to 75 percent, dominantly stones and boulders, with lesser amounts of cobbles and pebbles. Lithology of fragments is primarily andesite and tuff.

Clay content—8 to 15 percent, usually increasing with depth.

Structure—Weak or moderate, fine to coarse, subangular blocky or it is weak prismatic parting to subangular blocky.

Consistence—Soft or slightly hard.

Other features—Moist value of 3 does not occur in the A1 horizon.

Bt horizon:

Hue—7.5YR or 10YR

Value—4 or 5 dry, 3 or 4 moist

Chroma—2 or 3

Texture—Ashy sandy clay loam or ashy sandy loam.

Rock fragments—50 to 80 percent, mainly cobbles and stones. Lithology of the fragments is mostly andesite or andesitic tuff.

Softscrabble series

The Softscrabble series consists of very deep, well drained soils that formed in residuum and colluvium derived mainly from volcanic rocks. Softscrabble soils are on plateaus and mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls

Typical pedon: Softscrabble very gravelly loam in an area of Humboldt County, NV, West Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 5 percent stones, 10 percent cobbles, and 30 percent pebbles.

A1—0 to 4 inches; very dark grayish brown (10YR 3/2) very gravelly loam, very dark brown (10YR 2/2) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine and fine roots; many very fine tubular pores; 30 percent pebbles, 10 percent cobbles and 5 percent stones; neutral (pH 7.0); clear smooth boundary.

A2—4 to 12 inches; very dark grayish brown (10YR 3/2) gravelly loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and medium roots; many fine tubular pores; 30 percent pebbles; neutral (pH 7.0); clear smooth boundary.

Bt1—12 to 19 inches; brown (10YR 4/3) very cobbly clay loam, very dark grayish brown (10YR 3/2) moist; strong fine angular blocky structure; hard, friable, sticky and plastic; common fine and medium roots; common fine tubular pores; common thin clay films lining pores; 40 percent cobbles; 10 percent pebbles; neutral (pH 6.8); gradual wavy boundary.

Bt2—19 to 36 inches; brown (10YR 4/3) very cobbly clay loam, very dark grayish brown (10YR 3/2) moist; strong fine angular blocky structure; hard, friable, sticky and plastic; common fine and medium roots; common fine tubular pores; common moderately thick clay films on faces of peds and lining pores; 10 percent pebbles, 40 percent cobbles; neutral (pH 6.8); gradual smooth boundary.

2Bt3—36 to 61 inches; dark yellowish brown (10YR 4/4) gravelly clay loam, dark brown (10YR 3/3) moist; strong fine angular blocky structure; hard, friable, sticky and plastic; common fine medium roots; common fine tubular pores; few thin clay films on

faces of peds; 20 percent pebbles, 10 percent cobbles; neutral (pH 6.6).

Cr—61 inches; highly weathered bedrock

Type location: Humboldt County, Nevada; in the Bilk Creek Mountains, approximately 12 miles southeast of Denio, about 2,500 feet west and 600 feet south of the northeast corner of section 1, T.46 N., R.31 E.; 41 degrees, 53 minutes, 57 seconds north latitude and 118 degrees, 27 minutes, 16 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry mid-July to early October for 75 to 90 consecutive days in the four months following the summer solstice; Xeric moisture regime that borders on aridic.

Mean annual soil temperature: 44 to 47 degrees F.

Mollic epipedon thickness: 20 to 38 inches; includes the Bt1 and Bt2 horizons.

Depth to base of argillic horizon: 60 to 80 inches.

Depth to bedrock: 60 to 80 inches to a paralithic contact. The paralithic materials below the contact are weathered volcanic rocks such as andesite or andesitic tuff.

Reaction: Slightly acid or neutral.

Particle-size control section:

Clay content—Averages 27 to 35 percent.

Rock fragments—Averages 35 to 70 percent, mainly pebbles and cobbles with a few stones. Lithology of fragments are volcanic rocks such as andesite or tuff-breccia.

A horizons:

Hue—10YR or 7.5YR.

Value—3 through 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 5 percent.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 3 or 4 moist.

Chroma—2 through 4 (4 in lower part only).

Texture—Very cobbly clay loam, extremely cobbly clay loam, very gravelly clay loam, or extremely gravelly clay loam; some pedons have subhorizons below 30 inches with clay loam, gravelly clay loam, very gravelly clay loam, or loam.

Rock fragments—35 to 70 percent; Some pedons have subhorizons with a little as 5 percent rock fragments.

Structure—Angular blocky or subangular blocky.
 Consistence—Slightly hard or hard, dry; friable or firm, moist; slightly sticky or moderately sticky and slightly plastic or moderately plastic wet.
 Organic matter content—1 or 2 percent in the upper horizons.

Soughe series

The Soughe series consists of shallow, well drained soils that formed in residuum and colluvium from volcanic rocks. Soughe soils are on hills. Slopes are 4 to 50 percent. Mean annual precipitation is about 9 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids

Typical pedon: Soughe extremely gravelly fine sandy loam in an area of Humboldt County, NV, West Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 70 percent pebbles and 5 percent cobbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) extremely gravelly fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine vesicular pores; 70 percent pebbles, 5 percent cobbles; slightly alkaline (pH 7.4); abrupt smooth boundary.

A2—2 to 4 inches; light brownish gray (10YR 6/2) very gravelly fine sandy loam, brown (10YR 4/3) moist; weak medium subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine vesicular pores; 40 percent pebbles, 5 percent cobbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bt—4 to 14 inches; pale brown (10YR 6/3) very gravelly clay loam, brown (10YR 4/3) moist; weak fine subangular blocky structure; slightly hard, friable, very sticky and very plastic; few very fine and fine roots; many very fine tubular pores; 40 percent pebbles, 10 percent cobbles; few thin clay films on faces of peds; moderately alkaline (pH 8.0); abrupt smooth boundary.

R—14 inches; unweathered bedrock.

Type location: Humboldt County, Nevada; approximately 4 miles southwest of Denio Junction, about 1,300 feet west and 300 feet north of the projected southeast corner of section 19, T.46 N., R.29 E.; 41 degrees, 53 minutes, 53 seconds north

latitude and 118 degrees, 41 minutes, 06 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring, dry mid-June through October.

Soil temperature: 47 to 50 degrees.

Depth to bedrock: 10 to 20 inches.

Reaction: Neutral to moderately alkaline.

Control section:

Clay content—25 to 35 percent.

Rock fragments—35 to 60 percent, mainly pebbles with 0 to 10 percent cobbles.

A horizon:

Value—5 or 6 dry, 3 or 4 moist.

Bt horizon:

Value—4 through 6 dry, 3 or 4 moist.

Chroma—3 or 4.

Texture—Very gravelly clay loam, very gravelly sandy clay loam, or very gravelly loam.

Structure—Weak to strong, very fine to very coarse subangular blocky or moderate to strong, medium angular blocky.

Consistence—Soft to hard, dry; very friable or friable, moist, sticky or very sticky and plastic or very plastic wet.

Steerlake series

The Steerlake series consists of deep over cemented duripan, well drained soils that formed in alluvium from volcanic rocks. Steerlake soils are on landslides. Slopes are 4 to 15 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Fine, smectitic, mesic Vertic Palexerolls

Typical pedon: Steerlake very cobbly loam in an area of map unit 87, rangeland (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 5 percent stones, 30 percent cobbles and 20 percent gravel.

A1—0 to 3 inches; grayish brown (10YR 5/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate coarse platy structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and fine roots; many very fine and fine

vesicular and tubular pores; 5 percent igneous-basalt stones, 30 percent cobbles and 20 percent gravel; neutral (pH 7.0); clear smooth boundary.

AB—3 to 6 inches; grayish brown (10YR 5/2) cobbly clay loam, dark brown (10YR 3/3) moist; moderate coarse platy structure; moderately hard, very friable, moderately sticky and moderately plastic; many very fine roots and many fine and few medium; many very fine tubular pores; 1 percent igneous-basalt stones, 10 percent cobbles and 10 percent gravel; slightly alkaline (pH 7.4); abrupt wavy boundary.

Btss1—6 to 14 inches; brown (7.5YR 5/3) clay, dark brown (7.5YR 3/3) moist; strong medium prismatic structure parting to strong medium and coarse angular blocky; extremely hard, firm, very sticky and very plastic; many very fine and fine, and few medium and coarse roots between peds; many very fine tubular pores; many pressure faces; few 10 to 25 millimeter wedge shaped aggregates; few 5 to 10 millimeter slickensides; vertical cracks 2 to 15 millimeters wide extend from 6 to 31 inches and are 3 to 5 inches apart; 2 percent igneous-basalt cobbles and 5 percent gravel; slightly alkaline (pH 7.4); clear wavy boundary.

Btss2—14 to 31 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; weak medium prismatic structure parting to moderate medium and coarse angular blocky; moderately hard, very friable, very sticky and very plastic; many very fine and fine, few medium and coarse roots; many very fine tubular pores; many pressure faces; few 10 to 25 millimeter wedge shaped aggregates; few 5 to 10 millimeter slickensides; vertical cracks 2 to 15 millimeters wide extend from 6 to 31 inches and are 3 to 5 inches apart; 5 percent igneous-basalt gravel; moderately alkaline (pH 8.0); clear wavy boundary.

Bk—31 to 48 inches; light yellowish brown (10YR 6/4) loam, yellowish brown (10YR 5/4) moist; massive; hard, very friable, moderately sticky and moderately plastic; few fine and medium roots; few very fine tubular pores; few fine soft masses of lime; violently effervescent; moderately alkaline (pH 8.0); clear wavy boundary.

Bqkm—48 to 60 inches; very pale brown (10YR 7/3) weakly cemented duripan, brown (10YR 5/3) moist; continuous very thick plates; hard, very firm; about 40 percent very pale brown (10YR 7/3) gravelly sandy loam between plates, brown (10YR 5/3) moist; weak very thick platy structure; hard, firm, brittle; common medium soft carbonate masses; 5 percent igneous-basalt gravel; violently effervescent; moderately alkaline (pH 8.4).

Type location: Washoe County, Nevada; about 3,000 feet west and 700 feet north of the southeast corner of section 22, T.37 N., R.18 E; 41 degrees, 04 minutes, 15.3 seconds north latitude, 119 degrees, 57 minutes, 13.8 seconds west longitude, NAD27. USGS Duck Lake 7.5 minute topographic quadrangle.

Range in Characteristics:

Soil moisture: Usually dry; moist late fall through spring, dry late June through October. Aridic soil moisture regime that borders on xeric.

Soil temperature: 47 to 50 degrees F.

Mollic epipedon thickness: 10 to 20 inches, includes the upper argillic horizon.

Depth to identifiable secondary carbonates: 25 to 42 inches.

Depth to duripan: 40 to 58 inches.

Control section:

Clay content—50 percent.

Rock fragments—0 to 15 percent, mainly volcanic gravel.

A horizon:

Hue—10YR or 7.5YR.

Value—2 or 3 moist.

Chroma—2 or 3.

Reaction—Slightly acid to slightly alkaline.

Btss horizon:

Hue—5YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 through 4.

Clay content—45 to 55 percent; increase of 15 percent or more clay within 1 inch of the upper boundary.

Rock fragments—0 to 15 percent, mainly volcanic gravel.

Reaction—Slightly acid to slightly alkaline increasing with depth.

Other features—Common to many pressure faces; few to common slickensides or wedge shaped aggregates.

Bk horizons:

Hue—7.5YR or 10YR.

Value—5 or 6 dry, 4 or 5 moist

Chroma—3 through 5 dry or moist.

Clay content—20 to 27 percent.

Structure—Subangular blocky or is massive.

Reaction—Slightly alkaline to moderately alkaline.

Effervescence—Violently effervescent or strongly effervescent.

Bqkm horizon:

Cementation—Weakly cemented or moderately cemented.

Sumine series

The Sumine series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from mixed rocks. Sumine soils are on hills, mountains, and plateaus. Slopes are 9 to 50 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Aridic Argixerolls

Typical pedon: Sumine cobbly loam in an area of Humboldt County, NV, West Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 15 percent cobbles and 10 percent pebbles.

A1—0 to 2 inches; grayish brown (10YR 5/2) cobbly loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; slightly hard, very friable, slightly sticky and nonplastic; common very fine and fine roots; common fine and medium interstitial pores; 10 percent pebbles, 15 percent cobbles; neutral (pH 6.8); clear smooth boundary.

A2—2 to 5 inches; grayish brown (10YR 5/2) gravelly loam, very dark grayish brown (10YR 3/2) moist; weak fine granular structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common fine and medium interstitial pores; 30 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

Bt1—5 to 10 inches; brown (10YR 5/3) very gravelly clay loam, dark brown (10YR 3/3) moist; weak fine and medium subangular blocky structure; hard, firm, sticky and plastic; many very fine and fine roots; common fine and medium tubular pores; few thin clay films on faces of peds and lining pores; 40 percent pebbles; neutral (pH 7.2); clear wavy boundary.

Bt2—10 to 22 inches; yellowish brown (10YR 5/4) very gravelly clay loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; hard, firm, sticky and plastic; common very fine, few fine roots; common fine and medium tubular pores; few moderately thick clay films on faces of

peds and lining pores; 50 percent pebbles; neutral (pH 7.2); abrupt wavy boundary.

Bt3—22 to 30 inches; pale brown (10YR 6/3) very gravelly clay loam, brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; hard, firm, sticky and plastic; common very fine and fine roots; common fine and medium tubular pores; common thin clay films on faces of peds; 50 percent pebbles; neutral (pH 7.2); abrupt wavy boundary.

R—30 inches; fractured rhyolite bedrock.

Type location: Humboldt County, Nevada; in the Bilk Creek Mountains, approximately 2 miles northeast of Etchart Springs, about 2,000 feet west and 650 feet south of the northeast corner of section 33, T.46 N., R.32 E.; 41 degrees, 49 minutes, 45 seconds north latitude and 118 degrees, 23 minutes, 32 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in the winter and spring, dry from early July through mid-October; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 42 to 47 degrees F.

Mollic epipedon thickness: 8 to 17 inches, includes the Bt1 horizon.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Reaction: Neutral or slightly alkaline.

Particle-size control section:

Clay content—Averages 25 to 35 percent.

Rock fragments—Averages 35 to 60 percent, mainly gravel or cobbles. Lithology of fragments are mixed.

A horizons:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—2 to 5 percent.

Bt horizons:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 4, dry or moist.

Texture—Very gravelly clay loam, very cobbly clay loam, or very gravelly loam; some pedons have gravelly clay loam in thin Bt1 horizons.

Consistence—Soft to hard dry, very friable to firm moist, moderately sticky or very sticky and moderately plastic or very plastic wet.

Structure—Weak or moderate, very fine to medium angular or subangular blocky. In some pedons the lower subhorizons may be massive.

Organic matter content—1 to 3 percent in the Bt1 horizon, 0.5 to 3 percent in the Bt2 and Bt3 horizons.

Surprise series

The Surprise series consists of deep, well drained soils that formed in alluvium mostly from tuff and breccia. The Surprise soils are on fan remnants. Slopes range from 0 to 15 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Haploxerolls

Typical pedon: Surprise gravelly ashy sandy loam in an area of map unit 575, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; grayish brown (10YR 5/2) gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; weak medium granular structure; soft, very friable; many fine roots; many very fine pores; neutral (pH 6.8); clear smooth boundary.

A2—3 to 9 inches; grayish brown (10YR 5/2) gravelly ashy sandy loam, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable; many fine roots; many very fine pores; neutral (pH 6.8); gradual smooth boundary.

Bw—9 to 28 inches; light brownish gray (10YR 6/2) gravelly ashy sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, very friable; many fine roots; many fine pores; neutral (pH 6.8); gradual smooth boundary.

C1—28 to 45 inches; light brownish gray (10YR 6/2) gravelly ashy sandy loam, dark grayish brown (10YR 4/2) moist; massive; slightly hard, friable; common fine and few medium roots; many fine pores; 25 percent gravel; neutral (pH 6.8); gradual wavy boundary.

C2—45 to 67 inches; light brownish gray (10YR 6/2) very gravelly ashy sandy loam, dark grayish brown (10YR 4/2) moist; massive; soft, very friable; few fine and common medium roots; many fine pores; 35 percent gravel and 3 percent cobbles; neutral (pH 6.8).

Type location: Modoc County, California; about 2 miles north of Eagleville, in Surprise Valley, about 250 feet

south and 1,740 feet west of the northeast corner of sec. 14, T.40 N., R. 16 E.; 41 degrees, 20 minutes, 21.9 seconds north latitude and 120 degrees, 07 minutes, 24.4 seconds west longitude, NAD27; Eagleville quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry throughout the summer and fall. Aridic bordering xeric soil moisture regime.

Soil temperature: 48 degrees to 54 degrees F.

Mollic epipedon thickness: 8 to 14 inches.

Thickness of the solum: 24 to 48 inches.

Carbonates: Noncalcareous throughout.

Profile reaction: Slightly acid or neutral.

Volcanic glass content: 30 to 60 percent volcanic glass and glass aggregates in the coarse silt to sand fraction.

Control section:

Texture—Predominantly gravelly ashy sandy loam; individual strata range from gravelly ashy sandy loam to ashy loam.

Clay content—Averages 10 to 18 percent.

Rock fragments—Averages 15 to 35 percent, mainly gravel; any one stratum ranges from 0 to 50 percent rock fragments.

A horizon:

Value—4 or 5, dry and chroma of 2 or 3.

Structure—Weak to moderate, fine to medium, platy, granular or subangular blocky, or is massive.

Consistence—Soft or slightly hard, dry.

Bw horizons:

Value—5 or 6 dry and 3, 4 or 5 moist.

Chroma—2 or 3.

Texture—Predominantly gravelly ashy sandy loam; individual strata range from gravelly ashy sandy loam to ashy loam.

Clay content: 10 to 18 percent.

Rock fragments—Averages 15 to 35 percent, mainly gravel; any one stratum ranges from 0 to 50 percent rock fragments.

Structure—Massive or has weak, medium or coarse subangular blocky structure.

C horizons:

Value—5 or 6 dry and 3, 4 or 5 moist.

Chroma—2 or 3.

Clay content—7 to 12 percent; contains less clay than the Bw horizons in each pedon.

Rock fragments—Averages 25 to 50 percent, mainly gravel.

Tinpan series

Tinpan series consists of moderately deep, well drained soils that formed in alluvium derived from basalt, andesite, and tuff. Tinpan soils are on plateaus. Slopes are 0 to 8 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Very-fine, smectitic, frigid Vertic Palexerolls

Typical pedon: Tinpan extremely cobbly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by 40 percent cobbles and 20 percent pebbles.

A1—0 to 2 inches; light brownish gray (10YR 6/2) extremely cobbly loam, dark brown (10YR 3/3) moist; moderate thin and medium platy structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine and common fine vesicular pores; 5 percent stones, 40 percent cobbles, and 20 percent pebbles; neutral (pH 6.8); clear wavy boundary.

A2—2 to 5 inches; brown (10YR 5/3) silty clay loam, very dark grayish brown (10YR 3/2) moist; moderate very fine subangular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; many very fine and common fine roots; many very fine interstitial pores; 10 percent pebbles; neutral (pH 6.8); abrupt wavy boundary.

Btss1—5 to 12 inches; brown (10YR 5/3) clay, dark brown (10YR 3/3) moist; strong medium prismatic structure; extremely hard, extremely firm, very sticky and very plastic; common very fine, fine, and medium roots between peds; common fine tubular pores; many distinct clay films on faces of peds; common light gray (10YR 7/2) uncoated sand grains, dark grayish brown (10YR 4/2) moist on tops of prisms; vertical cracks 5 to 15 millimeters wide and 2 to 4 inches apart extend through horizon; few slickensides; neutral (pH 7.0); clear wavy boundary.

Btss2—12 to 18 inches; brown (7.5YR 5/4) clay, brown (7.5YR 4/4) moist; moderate medium and coarse prismatic structure parting to strong medium and coarse angular blocky; extremely hard, extremely firm, very sticky and very plastic; common very fine, fine, and medium roots between peds; common very fine tubular pores; many distinct and prominent clay films on faces of peds and lining pores; vertical cracks 5 to 15 millimeters wide and 2 to 4 inches apart extend to base of horizon; common slickensides bounding wedge-shaped peds tilted 30

degrees from horizontal; neutral (pH 7.2); clear smooth boundary.

Btss3—18 to 28 inches; light brown (7.5YR 6/4) clay, brown (7.5YR 4/4) moist; moderate medium and coarse prismatic structure parting to strong medium and coarse angular blocky; very hard, firm, very sticky and very plastic; few very fine, fine, and medium roots between peds; common very fine tubular pores; many distinct clay films on faces of peds and lining pores; many slickensides bounding coarse wedge-shaped peds tilted 30 degrees from horizontal; slightly alkaline (pH 7.5); clear smooth boundary.

Btkss—28 to 36 inches; light yellowish brown (10YR 6/4) clay, brown (7.5YR 4/4) moist; strong medium and coarse angular blocky structure; very hard, friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; many distinct and prominent clay films on faces of peds and lining pores; few slickensides bounding wedge-shaped peds tilted 30 degrees from horizontal; secondary carbonates segregated as 3 percent medium and large white (10YR 8/1) masses; slightly effervescent matrix; moderately alkaline (pH 8.2); abrupt wavy boundary.

R—36 inches; hard vesicular basalt; few coats of secondary carbonates at the boundary and in some fractures.

Type location: Washoe County, Nevada; 2.6 miles northeast of the Barrel Springs Road; about 1,500 feet west and 2,200 feet north of the southeast corner of section 9, T.46 N., R.19 E.; USGS Little Coleman Canyon 7.5 minute topographic quadrangle; 41 degrees, 55 minutes, 18 seconds north latitude and 119 degrees, 51 minutes, 11 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Moist in winter and spring; dry in summer and fall; aridic moisture regime that borders on xeric.

Soil temperature: 44 to 47 degrees F.

Summer soil temperature: 60 to 64 degrees F.

Mollic epipedon thickness: 10 to 16 inches, includes the Btss1 horizon.

Depth to horizon with identifiable secondary carbonates: 25 to 35 inches.

Depth to bedrock: 20 to 40 inches to a lithic contact.

Control section:

Clay content—60 to 70 percent.

Other features—An abrupt horizon boundary is normally present between the A2 and Btss1

horizons accompanied by an abrupt increase in clay content of at least 20 percent.

A1 horizon:

Value—5 or 6 dry, 2 or 3 moist; Uncoated sand grains with value of 6 or 7 dry.
 Chroma—2 or 3, dry or moist.
 Clay content—20 to 27 percent.
 Rock fragments—60 to 70 percent total with 0 to 10 percent stones, 35 to 55 percent cobbles, and 10 to 25 percent pebbles. Lithology of fragments is mainly basalt.
 Organic matter content—2 or 3 percent.

A2 horizon:

Chroma—2 or 3, dry or moist.
 Clay content—27 to 35 percent.
 Rock fragments—0 to 15 percent, mainly pebbles.
 Organic matter content—1 to 3 percent.

Btss1 horizon:

Clay content—60 to 70 percent.
 Organic matter content—1 or 2 percent.
 Reaction—Neutral or slightly alkaline.
 Slickensides and other vertic features—Few to many slickensides often bounding wedge-shaped peds; vertical cracks 5 to 25 millimeters wide.

Btss2 and Btss3 horizons:

Hue—10YR or 7.5YR.
 Value—4 through 6 dry, 3 through 5 moist.
 Chroma—2 through 4, dry or moist.
 Structure—Strong, medium and coarse prismatic and angular blocky with few to many wedges.
 Reaction—Neutral or slightly alkaline.
 Slickensides and other vertic features: Few to many slickensides bounding wedge-shaped peds; vertical cracks 5 to 25 millimeters wide in Btss2 horizon.

Btkss horizon:

Hue—10YR or 7.5YR.
 Value—6 or 7 dry, 4 or 5 moist.
 Structure—Strong, medium and coarse angular blocky with few wedges.
 Slickensides and other vertic features—Few or common slickensides bounding wedge-shaped peds.
 Reaction—Slightly alkaline or moderately alkaline
 Identifiable secondary carbonates—Few to many fine to coarse masses.
 Effervescence—Slightly effervescent or strongly effervescent in matrix.
 Calcium carbonate equivalent—1 to 5 percent.

Tuffo series

The Tuffo series consists of very shallow and shallow, somewhat excessively drained soils that formed in residuum from tuff, welded tuff, and tuffaceous sandstone. Tuffo soils are on ash flows. Slopes are 8 to 50 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy, glassy, nonacid, mesic, shallow Vitrandic Torriorthents

Typical pedon: Tuffo ashy fine sandy loam, in an area of Humboldt County, NV, West Part rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 10 percent pebbles.

A—0 to 5 inches; brown (10YR 5/3) ashy fine sandy loam, dark brown (10YR 3/3) moist; moderate medium and thick platy structure; soft, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; many very fine and common fine vesicular pores; 5 percent pebbles; slightly alkaline (pH 7.4); abrupt smooth boundary.

C—5 to 8 inches; light yellowish brown (10YR 6/4) ashy very fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine, common fine and few medium roots; common very fine tubular pores; 5 percent pebbles; slightly alkaline (pH 7.4); clear smooth boundary.

Cr—8 to 40 inches; highly weathered and fractured tuffaceous sandstone; massive; few fine roots in fractures; few fine lime seams in fracture planes.

Type location: Humboldt County Nevada, Summit Lake Indian Reservation, about 2,660 feet south and 1,000 feet west of the northeast corner of section 17, T.42 N., R.26 E.; 41 degrees, 33 minutes, 29 seconds north latitude and 119 degrees, 01 minute, 50 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry from late June through October. Torric moisture regime that borders on xeric.

Soil temperature: 47 to 52 degrees F.

Depth to paralithic contact: 4 to 15 inches.

Pyroclastic material: 60 to 75 percent of the 0.02 to 2 mm fraction and 30 to 60 percent of the fine earth fraction.

Reaction: Neutral or slightly alkaline.

Control section:

Clay content—5 to 15 percent.

Rock fragments—5 to 25 percent, mainly pebbles.

A horizon:

Value—5 through 7 dry, 3 or 4 moist.

Chroma—2 through 4, dry or moist.

C horizon:

Hue—2.5Y or 10YR.

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 through 4 dry or moist.

Texture—Dominantly very fine sandy loam or fine sandy loam with gravelly sandy loam common in some pedons.

Structure—Massive.

Cr horizon:

Carbonates—Few to common lime seams along fracture planes.

Weathering—Highly weathered material in the upper part, to soft weathered material in the lower part.

Tuledad series

The Tuledad series consists of shallow, well drained soils that formed in residuum weathered dominantly from volcanic rock. Tuledad soils are on plateaus and hills. Slopes are 0 to 8 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Clayey, smectitic, mesic Lithic Haploxererts

Typical pedon: Tuledad extremely cobbly loam in an area of map unit 576, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered by 30 percent gravel, 40 percent cobbles and 4 percent stones.

A1—0 to 1 inch; grayish brown (10YR 5/2) extremely cobbly loam, very dark grayish brown (10YR 3/2) moist; weak very thin and thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; common very fine tubular pores; 30 percent gravel, 30 percent cobbles, 5 percent stones; neutral (pH 6.8); clear wavy boundary.

A2—1 to 3 inches; grayish brown (10YR 5/2) clay loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure parting to weak very fine and fine

subangular blocky; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; common very fine tubular pores; neutral (pH 6.8); abrupt wavy boundary.

Bss1—3 to 10 inches; brown (7.5YR 4/2) clay, brown (7.5YR 4/3) moist; moderate coarse prismatic structure parting to moderate very fine and fine subangular blocky; hard, firm, very sticky and very plastic; common very fine, fine and few medium and coarse roots; few very fine tubular pores; many pressure faces; common slickensides; vertical cracks 2 to 15 millimeters wide and 20 to 75 millimeters apart; slightly alkaline (pH 7.4); clear wavy boundary.

Bss2—10 to 15 inches; brown (7.5YR 4/2) clay, brown (7.5YR 4/3) moist; moderate medium prismatic structure parting to moderate very fine and fine angular blocky; hard, firm, very sticky and very plastic; few very fine to medium roots; few very fine tubular pores; many pressure faces; common slickensides; few 5 to 15 millimeter wedge shaped aggregates; vertical cracks 2 to 15 millimeters wide and 20 to 75 millimeters apart; slightly alkaline (pH 7.8); abrupt irregular boundary.

R—15 inches; hard vesicular basalt.

Type location: Washoe County, Nevada; unsectionized; in projected section 21, T.35 N., R.19 E.; about 0.25 mile south of Buckhorn Road and 1.5 miles east of Steer Lake; 40 degrees, 54 minutes, 47.1 seconds north latitude and 119 degrees, 50 minutes, 44.8 seconds west longitude; NAD27; Rye Patch Canyon 7.5 minute quadrangle.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring, dry in summer through late fall. Aridic bordering xeric soil moisture regime.

Soil temperature: 47 to 53 degrees.

Depth to bedrock: 14 to 20 inches.

Control section:

Clay content—40 to 60 percent.

A horizon:

Hue—10YR or 2.5Y.

Value—5 or 6 dry, 2 or 3 moist.

Chroma—1 through 3.

Reaction—Slightly acid or neutral.

Bss horizon:

Hue—5YR or 7.5YR.

Value—4 through 6, dry; 3 or 4, moist.

Chroma—2 through 4.

Structure—Prismatic, angular blocky, subangular blocky.

Consistence—Hard to very hard, dry.

Reaction—Neutral or slightly alkaline.

Other features—Few to many slickensides. Few or common wedge shaped aggregates.

Tunnison series

The Tunnison series consists of moderately deep, well drained soils that formed in colluvium over residuum weathered from andesite or basalt. Tunnison soils are on plateaus. Slopes are 0 to 8 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Very-fine, smectitic, mesic Aridic Haploxererts

Typical pedon: Tunnison very cobbly clay in an area of Susanville Area, Parts of Lassen and Plumas Counties, CA, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 1 inch; reddish brown (5YR 5/3) very cobbly clay, reddish brown (5YR 5/4) moist; strong fine and medium granular structure; slightly hard, very friable, very sticky and very plastic; common very fine roots; many very fine interstitial pores; 20 percent stones, 25 percent cobbles, and 10 percent pebbles of hard, subrounded basalt; neutral (pH 7.2); clear wavy boundary.

Bw1—1 to 5 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 5/4) moist; strong coarse angular blocky structure; hard, very friable, very sticky and very plastic; common very fine, few fine and medium roots; many very fine interstitial pores; vertical cracks 10 to 30 mm wide and about 3 to 6 inches apart; neutral (pH 7.2); clear wavy boundary.

Bw2—5 to 15 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 5/4) moist; strong coarse and very coarse prismatic structure; very hard, very friable, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; vertical cracks 10 to 20 mm wide and about 3 to 6 inches apart; many (75 percent) pressure cutans on faces of peds; neutral (pH 7.1); clear wavy boundary.

Bss—15 to 27 inches; reddish brown (5YR 5/3) clay, reddish brown (5YR 5/4) moist; moderate coarse prismatic structure parting to moderate medium angular blocky; very hard, friable, very sticky and very plastic; few very fine, few fine and common medium roots; common very fine tubular pores;

vertical cracks 10 to 20 mm wide and about 3 to 6 inches apart; wedge-shaped peds 0.5 to 1.0 inch across with surface tilting 30 degrees from the horizontal and with continuous intersecting slickensides; slightly alkaline (pH 7.6); clear wavy boundary.

BC—27 to 31 inches; reddish brown (5YR 5/4) clay, reddish brown (5YR 4/3) moist; strong fine and medium angular blocky structure; hard, very friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; common distinct light reddish brown (5YR 6/4) pressure cutans on faces of peds, reddish brown (5YR 4/4) moist; slightly alkaline (pH 7.7); abrupt wavy boundary.

Cr—31 to 38 inches; reddish yellow (5YR 7/6) soft, weathered andesite, yellowish red (5YR 5/8) moist; weathered into medium and thick plates in upper 2 to 3 inches with secondary silica coats on bottoms of some plates; can be dug with a spade; clear wavy boundary.

R—38 inches; hard, unweathered andesite.

Type location: Lassen County, California; about 10.8 miles southwest of Ravendale and 790 feet south of the borrow pit that is 1 mile east of Horse Lake and just north of the Ravendale road; 1,850 feet south and 900 feet east of the northwest corner of section 1, T.32 N., R.13 E.; USGS West of Snowstorm Mtn. 7.5 minute topographic quadrangle; 40 degrees, 39 minutes, 48 seconds north latitude and 120 degrees, 28 minutes, 03 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in the moisture control section during winter and spring, dry in summer and fall; When dry, vertical cracks 0.5 to 3 inches wide and 2 to 11 inches apart extend from the surface to at least 22 inches or to bedrock. These cracks remain open from about June 1 through mid-December, about 200 days and are closed from January 1 to mid-April, more than 60 consecutive days; adjacent soils have an aridic moisture regime that borders on xeric.

Soil temperature: 47 to 50 degrees F.

Depth to bedrock: 20 to 35 inches to a paralithic contact; The paralithic materials below the contact are weathered andesite or basalt. Hard, unweathered bedrock is usually within 40 inches.

Slickensides and other vertic features: Wedge-shaped peds tilted 30 to 60 degrees from the horizontal and intersecting slickensides occur at some depth between 10 inches from the soil surface and the bedrock contact.

Particle-size control section:

Clay content—60 to 70 percent.

Other features—Commonly, 35 to 60 percent rock fragments cover the soil surface, mostly stones and cobbles. Micro hummocks 2 or 3 inches high occur between rock fragments.

A horizon:

Hue—5YR or 7.5YR.

Value—4 or 5.

Chroma—2 through 4

Clay content—55 to 70 percent.

Reaction—Neutral or slightly alkaline.

Bw, Bss, and BC horizons:

Hue—5YR or 7.5YR.

Value—4 or 5.

Chroma—2 through 4

Clay content—60 to 70 percent.

Reaction—Neutral or slightly alkaline.

Other features—Identifiable secondary carbonates occur at depths from 23 to 30 inches in some pedons.

Tusune series

The Tusune series consists of moderately deep, well drained soils that formed in residuum and colluvium derived from volcanic rocks. Tusune soils are on plateaus. Slopes are 15 to 50 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy-skeletal, glassy Vitrandic Argicryolls

Typical pedon: Tusune gravelly ashy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 1 percent stones, 2 percent cobbles, and 25 percent pebbles.

A1—0 to 2 inches; brown (10YR 5/3) gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate very fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine interstitial pores; 1 percent stones and cobbles and 20 percent pebbles; neutral (pH 6.6); clear wavy boundary.

A2—2 to 10 inches; grayish brown (10YR 5/2) gravelly ashy loam, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky

structure; soft, very friable, moderately sticky and moderately plastic; many very fine, common fine, and few medium roots; many very fine tubular pores; 20 percent pebbles; neutral (pH 6.8); clear wavy boundary.

Bt1—10 to 26 inches; brown (10YR 5/3) very gravelly ashy clay loam, dark brown (10YR 3/3) moist; strong fine and medium subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; many very fine, common fine, and few medium roots; many very fine tubular pores; 40 percent pebbles; few faint clay films on faces of peds and lining pores; neutral (pH 7.0); clear wavy boundary.

Bt2—26 to 38 inches; brown (7.5YR 5/4) very gravelly ashy clay loam, brown (7.5YR 4/4) moist; weak medium and coarse subangular blocky structure; hard, very friable, moderately sticky and moderately plastic; common very fine, common fine, and few medium roots; many very fine tubular pores; 5 percent cobbles and 40 percent pebbles; common faint clay films on faces of peds and lining pores; neutral (pH 7.0); abrupt irregular boundary.

Cr—38 to 46 inches; fractured, weathered, vitric andesitic tuff; few thin silica coats on rock surface; few very fine roots in fractures.

Type location: Washoe County, Nevada; on the northeast side of Massacre Mountain in section 25, T.42 N., R.21 E.; USGS Massacre Creek 7.5 minute topographic quadrangle; 41 degrees, 31 minutes, 22 seconds north latitude and 119 degrees, 34 minutes, 02 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry in late summer and fall; completely dry for at least 45 consecutive days between July and October; Xeric moisture regime that borders on aridic.

Soil temperature: 44 to 47 degrees F.

Summer soil temperature: 54 to 59 degrees F.

Mollic epipedon thickness: 20 to 30 inches, includes all or part of the argillic horizon.

Depth to base of argillic horizon: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to a paralithic contact.

The paralithic materials below the contact are weathered andesitic or rhyolitic tuff.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Particle-size control section:

Clay content—25 to 30 percent.

Rock fragments—Averages 35 to 50 percent, mainly pebbles. Lithology are volcanic rocks such as rhyolite and tuff.

Reaction—Slightly acid or neutral.

A1 horizon:

Value—4 or 5 dry, 2 or 3 moist.
 Chroma—2 or 3, dry or moist.
 Clay content—10 to 15 percent.
 Organic matter content—2 or 3 percent.

A2 horizon:

Value—4 or 5 dry, 2 or 3 moist.
 Chroma—2 or 3, dry or moist.
 Clay content—15 to 20 percent.
 Organic matter content—1 or 2 percent.

Bt horizons:

Hue—10YR or 7.5YR.
 Value—4 or 5 dry, 3 or 4 moist.
 Chroma—3 or 4, dry or moist.
 Texture—Very gravelly ashy clay loam or very gravelly ashy loam.
 Clay content—25 to 30 percent.
 Rock fragments—35 to 50 percent.
 Organic matter content—0.5 to 2 percent.

Uhaldi series

The Uhaldi series consists of moderately deep, well drained soils that formed in colluvium derived from tertiary lacustrine sediments. Uhaldi soils are on plateaus. Slopes are 8 to 30 percent. Mean annual precipitation is about 13 inches, and mean annual temperature is 46 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, mesic Aridic Argixerolls

Typical pedon: Uhaldi gravelly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 1 percent stones, 3 percent cobbles and 30 percent pebbles.

A—0 to 4 inches; brown (10YR 5/3) gravelly loam, dark brown (10YR 3/3) moist; strong thin platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; many very fine vesicular pores; 1 percent stones, 3 percent cobbles, 30 percent pebbles; slightly acid (pH 6.2); abrupt wavy boundary.

Bt1—4 to 12 inches; brown (7.5YR 5/3) gravelly loam, dark brown (7.5YR 3/3) moist; moderate fine subangular blocky structure; hard, very friable, sticky

and plastic; many very fine and common fine and medium roots; many very fine tubular pores; common thin clay films on faces of peds and in pores; 25 percent pebbles; slightly alkaline (pH 7.4); clear wavy boundary.

Bt2—12 to 22 inches; yellowish brown (10YR 5/4) gravelly clay loam, brown (7.4YR 4/4) moist; strong medium and coarse subangular blocky structure; hard, very friable, sticky and plastic; common very fine and fine and few medium roots; many very fine and common fine tubular pores; common thin and few moderately thick clay films on faces of peds and in pores; 20 percent pebbles; slightly alkaline (pH 7.6); clear irregular boundary.

Cr1—22 to 33 inches; brownish yellow (10YR 6/6) weathered tuffaceous sandstone, strong brown (7.5YR 4/6) moist; strong very thick platy rock structure; many very fine roots in some fractures; few large very thin lime coats on underside of some plates; clear irregular boundary.

Cr2—33 to 46 inches; white (N 8/) weathered tuffaceous sandstone, grayish brown (2.5Y 5/2) moist fractured into 4 to 6 inch thick plates; few large very thin lime coats on underside of some plates.

Type location: Washoe County, Nevada; about 2 miles west of the Sheldon Antelope Refuge boundary along Road 8A in an unsectionized area, T.43 N., R.22 E.; 41 degrees, 37 minutes, 00 seconds north latitude and 119 degrees, 31 minutes, 03 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist November thru June.

Aridic bordering on Xeric moisture regime.

Soil temperature: 47 to 50 degrees F.

Mollic epipedon: 12 to 16 inches thick, includes the upper part of the argillic horizon.

Depth to paralithic contact: 20 to 40 inches.

Solum thickness: 20 to 40 inches.

Control section:

Percent clay—27 to 35 percent.

Rock fragments—15 to 35 percent, mainly pebbles.

A horizon:

Hue 10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 through 3.

Rock fragments—0 to 35 percent cobbles and stones, 15 to 35 percent pebbles.

Reaction—Medium acid to neutral.

Bt horizon:

Value—5 or 6 dry, 2 through 4 moist.

Chroma—2 through 4.

Reaction—Slightly acid to slightly alkaline.

Cr horizon:

Other features—Bedded weathered tuffaceous sandstone and mudstone that can be dug with tile spade. Roots penetrate weak fracture planes.

Updike series

The Updike series consist of very deep, moderately well drained soils that formed in alluvium over lacustrine deposits derived from mixed rocks. Updike soils are on lake terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Fine, smectitic, mesic Xerertic Natrargids

Typical pedon: Updike silt loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inches; light gray (10YR 7/2) silt loam, brown (10YR 4/3) moist; strong thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; few very fine roots; many very fine and fine tubular and vesicular pores; strongly effervescent; moderately alkaline (pH 8.2); abrupt wavy boundary.

Btn1—4 to 9 inches; pale brown (10YR 6/3) silty clay, brown (10YR 4/3) moist; strong fine and medium subangular blocky structure; hard, firm, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; many thin clay films on faces of peds and in pores; strongly effervescent; strongly alkaline (pH 8.6); clear smooth boundary.

Btn2—9 to 13 inches; pale brown (10YR 6/3) silty clay loam, dark yellowish brown (10YR 4/4) moist; strong fine and medium subangular blocky structure; hard, friable, very sticky and very plastic; few fine and medium roots; common very fine tubular pores; many moderately thick clay films on faces of peds and in pores; strongly effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

C—13 to 22 inches; pale brown (10YR 6/3) silty clay loam, brown (10YR 4/3) moist; strong fine and medium subangular blocky structure; hard, friable, very sticky and very plastic; common few fine roots;

common very fine tubular pores; few thin clay films in pores and bridges; strongly effervescent; strongly alkaline (pH 9.0); clear wavy boundary.

Ck1—22 to 29 inches; very pale brown (10YR 7/3) silty clay loam, yellowish brown (10YR 5/4) moist; moderate medium subangular blocky structure; slightly hard, very friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; common medium soft masses of lime; violently effervescent; strongly alkaline (pH 9.0); clear smooth boundary.

Ck2—29 to 36 inches; very pale brown (10YR 7/3) silty clay loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, very sticky and very plastic; few very fine roots; common very fine tubular pores; common medium soft masses of lime; violently effervescent; strongly alkaline (pH 9.0); abrupt wavy boundary.

2C—36 to 60 inches; light gray (2.5Y 7/2) stratified clay, clay loam and sandy clay loam, light brownish gray (2.5Y 6/2) moist; massive; hard, very friable, very sticky and sticky and very plastic and plastic; common very fine tubular pores; violently effervescent; very strongly alkaline (pH 9.1).

Type location: Washoe County, Nevada; about 12 miles north of Vya at the north end of Long Valley; about 1,200 feet east and 2,400 feet south of the northwest corner of section 2, T. 44 N., R. 19 E.; 41 degrees, 45 minutes, 47 seconds north latitude and 119 degrees, 49 minutes, 24 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist for short periods in the winter and spring, dry from summer to mid fall; Aridic moisture regime that borders on xeric.

Mean annual soil temperature: 49 to 52 degrees F.

Ochric epipedon thickness: 1 to 3 inches.

Depth to base of natric horizon: 15 to 40 inches.

Reaction: Moderately alkaline through very strongly alkaline.

Effervescence: Slightly effervescent to violently effervescent.

A horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—2 or 3, dry or moist.

Btn horizons:

Hue—10YR or 7.5YR.

Value—5 through 7 dry, 4 or 5 moist.

Chroma—2 through 4, dry or moist.

Texture—Clay, sandy clay, silty clay, or silty clay loam.

Sodicity (SAR)—13 to 45.

C horizons:

Hue—10YR or 2.5Y

Value—5 through 7 dry, 3 through 6 moist

Chroma—2 through 4

Texture—Clay, sandy clay, sandy clay loam or clay loam.

Clay content—30 to 45 percent

Other features—Some pedons have Ck horizons with few or common fine or medium masses of secondary carbonates.

Valmy series

The Valmy series consists of very deep, well drained soils that formed in a thin mantle of loess high in volcanic ash over alluvium derived from mixed rocks. Valmy soils are on fan skirts. Slopes are 2 to 8 percent. The mean annual precipitation is about 7 inches and the mean annual temperature is about 51 degrees F.

Taxonomic class: Coarse-loamy, mixed, superactive, calcareous, mesic Duric Torriorthents

Typical pedon: Valmy fine sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 2 inches; pale brown (10YR 6/3) fine sandy loam, very dark grayish brown (10YR 3/2) moist; weak very thin platy structure; slightly hard, very friable, nonsticky and nonplastic; many very fine and few fine roots; many very fine interstitial pores; moderately alkaline (pH 8.0); abrupt wavy boundary.

C—2 to 10 inches; light gray (10YR 7/2) fine sandy loam, dark grayish brown (10YR 4/2) moist; moderate medium platy structure; hard, very friable, nonsticky and nonplastic; common very fine roots; many very fine vesicular pores; strongly alkaline (pH 8.5); abrupt wavy boundary.

Cqk1—10 to 15 inches; light yellowish brown (10YR 6/4) fine sandy loam, dark yellowish brown (10YR 4/4) moist; weak coarse subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine and fine tubular pores; 50 percent 0.5 to 2 inch hard, firm durinodes; many thin silica coats bridging sand grains; few thin silica films in pores; few fine soft lime masses; slightly effervescent; strongly alkaline (pH 8.5); clear smooth boundary.

Cqk2—15 to 22 inches; light yellowish brown (10YR 6/4) fine sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; many very fine and common fine roots; many very fine tubular pores; 30 percent 0.5 to 1 inch hard, firm durinodes that are olive brown (2.5Y 4/3) moist; lime is disseminated; strongly effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

Cqk3—22 to 36 inches; light yellowish brown (10YR 6/4) sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, nonsticky and nonplastic; common very fine and few fine and medium roots; many very fine tubular pores; 5 percent 0.5 to 2 inch hard, firm durinodes; common thin silica films bridging mineral grains; violently effervescent; few fine white (10YR 8/2) soft masses of lime; strongly alkaline (pH 8.6); clear wavy boundary.

Ck—36 to 53 inches; light yellowish brown (10YR 6/4) stratified sandy loam and gravelly sandy loam, dark yellowish brown (10YR 4/4) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine roots; common very fine tubular pores; 15 percent pebbles; common fine and very pale brown (10YR 8/2) soft masses of lime; violently effervescent; strongly alkaline (pH 8.6); clear wavy boundary.

2C—53 to 60 inches; light brownish gray (2.5Y 6/2) gravelly sand, olive brown (2.5Y 4/4) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; 20 percent pebbles; violently effervescent; strongly alkaline (pH 9.0).

Type location: Washoe County, Nevada; at the south end of Coleman Valley; about 2.5 miles south of the Nevada-Oregon state line and 0.9 mile west of State Route 34; about 200 feet north and 400 feet east of the southwest corner of section 29 T.47 N., R.20 E.; 41 degrees, 57 minutes, 35 seconds north latitude and 119 degrees, 46 minutes, 08 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist for short periods in winter and spring, dry from May through November; typic aridic moisture regime.

Soil temperature: 47 to 53 degrees F.

Depth to horizons with durinodes: 6 to 30 inches.

Depth to strongly contrasting horizons: 30 to 50 inches, with some pedons deeper than 50 inches to sandy material. Some pedons have a stratified substratum.

Control section:

Clay content—5 to 15 percent.
 Rock fragments—0 to 30 percent, mainly pebbles.
 Lithology of fragments is mixed.

A horizon:

Hue—10YR or 2.5Y.
 Value—5 through 7 dry, 3 through 5 moist.
 Reaction—Moderately alkaline or strongly alkaline.

C horizons:

Hue—10YR or 2.5Y.
 Value—5 through 7 dry, 4 or 5 moist.
 Chroma—2 through 4.
 Texture—Fine sandy loam or sandy loam. Some pedons have strata of very fine sandy loam or coarse sandy loam.
 Durinodes—Durinodes range from 5 to 85 percent by volume in individual horizons, but one or more horizons more than 6 inches thick contains more than 25 percent. Rupture resistance is hard to extremely hard, very friable to very firm and brittle.
 Reaction—Strongly alkaline or very strongly alkaline.
 Effervescence—Slightly effervescent to violently effervescent.
 Calcium carbonate equivalent—1 to 4 percent.

2C horizon:

Texture—Gravelly sand or very gravelly sand; silty clay loam; or stratified very fine sandy loam to gravelly silt loam.
 Clay content—1 to 5 percent; 27 to 35 percent; or 5 to 18 percent, respectively.
 Structure—Single grain, massive, or platy.
 Consistence—Loose or soft to hard dry, nonsticky or moderately sticky wet.
 Rock fragments—5 to 55 percent.
 Reaction—Strongly alkaline or very strongly alkaline.

Verdico series

The Verdico series consists of moderately deep, well drained soils that formed in, residuum and colluvium from water laid tuffs. Verdico soils are on plateaus and hills. Slopes are 4 to 15 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 49 degrees F.

Taxonomic class: Fine, smectitic, mesic Vertic Paleargids

Typical pedon: Verdico very stony sandy loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted). The soil is partially covered with 10 percent stones, 10 percent cobbles, and 20 percent pebbles.

- A—0 to 3 inches; pale brown (10YR 6/3) very stony sandy loam, brown (10YR 4/3) moist; moderate thin and medium platy structure; slightly hard, very friable, sticky and plastic; few fine tubular pores, common medium vesicular pores; 10 percent stones, 10 percent cobbles, 20 percent pebbles; slightly acid (pH 6.4); abrupt wavy boundary.
- Bt1—3 to 13 inches; light yellowish brown (10YR 6/4) clay, yellowish brown (10YR 5/4) moist; weak medium prismatic structure parting to strong fine and medium angular blocky; hard, very friable, very sticky and very plastic; common fine and very fine and few medium roots; few very fine tubular pores; common thin gray (10YR 5/1) clay films, very dark grayish brown (10YR 3/2) moist on faces of peds and in pores; 5 percent pebbles; 5 percent cobbles; neutral (pH 7.0); clear wavy boundary.
- Bt2—13 to 17 inches; light yellowish brown (10YR 6/4) clay; yellowish brown (10YR 5/4) moist; moderate medium prismatic structure parting to strong fine and medium angular blocky; hard, firm, very sticky and very plastic; few fine and common medium roots; few very fine tubular pores; many thin and moderately thick clay films on faces of peds and in pores; many pressure faces; 10 percent pebbles; neutral (pH 7.0); clear wavy boundary.
- 2Ck—17 to 22 inches; light yellowish brown (10YR 6/4) gravelly clay, dark yellowish brown (10YR 4/4) moist; moderate very fine, fine and medium subangular blocky structure; hard, very friable, very sticky and very plastic; few fine and medium roots; few very fine tubular pores; few fine soft masses of lime; 25 percent pebbles; slightly effervescent; slightly alkaline (pH 7.5); gradual wavy boundary.
- Cr—22 to 26 inches; very pale brown (10YR 8/2) weathered tuff, very pale brown (10YR 7/4) moist; very thick platy rock structure; many thin silica and lime coats between plates.

Type location: Washoe County, Nevada; about 2,100 feet north and 1,600 feet west of the southeast corner of section 17, T.43 N., R.18 E.; 41 degrees, 38 minutes, 46 seconds north latitude and 119 degrees, 59 minutes, 04 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry; moist in winter and spring months. Aridic bordering on Xeric soil moisture.

Soil temperature: 47 to 52 degrees F.

Depth to paralithic contact: 20 to 40 inches.

Solum thickness: 17 to 30 inches.

Control section:

Clay percent—45 to 60.

Rock fragments—0 to 10 percent pebbles.

Other features—Abrupt clay increase of 20 percent or more within a vertical distance of 1 inch or less between the A and Bt horizon. Linear extensibility is 6 centimeters or more.

A horizon:

Value—5 or 6 dry; 3 or 4 moist.

Chroma—2 or 3.

Reaction—Slightly acid to neutral.

Bt horizons:

Value—6 or 7 dry, 4 or 5 moist.

Chroma—3 or 4.

Structure—Weak through strong prismatic.

Other features—Common, many or continuous pressure faces are in most pedons.

Reaction—Slightly acid to slightly alkaline

C horizon:

Value—6 or 7 dry, 4 or 5 moist.

Texture—Clay loam and clay.

Clay content—35 to 50 percent clay.

Rock fragments—15 to 30 percent.

Reaction—Neutral or slightly alkaline.

Carbonates—None to few fine filaments and soft masses.

Warnermount series

The Warnermount series consists of moderately deep, well drained soils that formed in volcanic ash and colluvium over residuum derived from andesite or tuff. Warnermount soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 20 inches and the mean annual temperature is about 41 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid Vitrandic Argixerolls

Typical pedon: Warnermount gravelly ashy loam located in map unit 585, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is

partly covered by 20 percent gravel, 5 percent cobbles, and 5 percent stones.

A—0 to 2 inches; dark grayish brown (10YR 4/2) gravelly ashy loam, very dark brown (10YR 2/2) moist; moderate fine granular structure; soft, very friable, slightly sticky, nonplastic; many very fine roots; many very fine interstitial pores; 5 percent cobbles and 25 percent pebbles; neutral, (pH 6.7); clear wavy boundary.

Bt1—2 to 10 inches; dark grayish brown (10YR 4/2) very stony ashy loam, very dark brown (10YR 2/2) moist; moderate fine and medium subangular blocky structure; slightly hard, very friable, slightly sticky, slightly plastic; many very fine and fine roots; common very fine interstitial and common very fine tubular pores; 2 percent distinct clay films on surfaces along pores and 2 percent distinct clay films on all faces of peds and 15 percent faint clay bridges between sand grains; 10 percent cobbles, 15 percent stones and 34 percent pebbles; neutral, (pH 6.7); clear wavy boundary.

Bt2—10 to 21 inches; dark grayish brown (10YR 4/2) extremely cobbly ashy loam, very dark brown (10YR 2/2) moist; strong fine and medium subangular blocky structure; hard, very friable, moderately sticky, moderately plastic; common very fine to medium roots; common very fine interstitial and common very fine tubular pores; 15 percent faint clay bridges between sand grains and 15 percent distinct clay films on all faces of peds and 15 percent distinct clay films on surfaces along pores; 5 percent stones, 20 percent cobbles, and 40 percent pebbles; neutral, (pH 6.6); clear wavy boundary.

Bt3—21 to 26 inches; brown (7.5YR 5/2) extremely cobbly ashy clay loam, dark brown (7.5YR 3/2) moist; strong fine and medium subangular blocky structure; hard, friable, very sticky, moderately plastic; common very fine to medium roots; common very fine interstitial and tubular pores; 15 percent faint clay bridges between sand grains and 15 percent distinct clay films on all faces of peds and 15 percent distinct clay films on surfaces along pores; 10 percent paracobbles, 20 percent paragravel, 30 percent pebbles and 30 percent cobbles; neutral, (pH 6.6); clear wavy boundary.

Bt4—26 to 33 inches; brown (10YR 5/3) extremely cobbly ashy clay loam, dark brown (10YR 3/3) moist; strong fine and medium subangular blocky structure; hard, friable, moderately sticky, moderately plastic; common very fine to medium roots; few very fine interstitial and tubular pores; 25 percent distinct clay films on all faces of peds and 25 percent distinct clay

films on surfaces along pores; 15 percent paragravel, 15 percent paracobbles, 30 percent cobbles and 30 percent pebbles; neutral, (pH 6.6); abrupt irregular boundary.

R—33 inches; unweathered andesite.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 1,850 feet west and 2,000 feet north of the southeast corner of section 19, T.47 N., R.16 E. ; Mount Bidwell USGS 7.5 minute topographic quadrangle; 41 degrees, 55 minutes, 38 seconds north latitude and 120 degrees, 10 minutes, 38 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Mean annual soil temperature: 43 to 47 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 20 to 40 inches.

Depth to bedrock: 20 to 40 inches to lithic bedrock. The lithic materials below the contact are andesite or tuff.

Profile reaction: Slightly acid or neutral.

Particle-size control section:

Clay content—Averages 20 to 27 percent, (field estimates).

Rock fragments—60 to 80 percent, mainly cobbles or stones. Lithology of the fragments is mainly andesite, andesitic tuff or tuff-breccia.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—2 to 4 percent.

Bt1 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam.

Clay content—18 to 27 percent.

Rock fragments—45 to 70 percent.

Structure—Moderate or strong, fine and medium subangular blocky.

Organic matter content—1 to 2 percent.

Bt2, Bt3, Bt4 horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam, ashy clay loam or ashy sandy clay loam.

Clay content—22 to 35 percent.

Rock fragments—60 to 80 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—1 to 2 percent.

Weezweed series

The Weezweed series consists of very deep, moderately well drained soils that formed in alluvium derived from pyroclastic volcanic rocks. Weezweed soils are on stream terraces. Slopes are 0 to 2 percent. The mean annual precipitation is about 12 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Haploxerolls

Typical pedon: Weezweed ashy loam in an area of Washoe County, NV, North Part, rangeland (Colors are for dry soil unless otherwise noted).

A1—0 to 5 inches; grayish brown (10YR 5/2) ashy loam, very dark grayish brown (10YR 3/2) moist; moderate thick platy structure; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular and interstitial pores; neutral (pH 6.8); clear wavy boundary.

A2—5 to 12 inches; grayish brown (10YR 5/2) ashy loam, very dark grayish brown (10YR 3/2) moist; weak coarse prismatic structure parting to moderate coarse subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine and fine roots; common very fine tubular pores; neutral (pH 6.8); clear wavy boundary.

A3—12 to 16 inches; grayish brown (10YR 5/2) ashy loam, very dark grayish brown (10YR 3/2) moist; weak coarse prismatic structure parting to strong fine and medium subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine, fine and medium roots; common very fine tubular pores; common thin dark gray (10YR 4/1) strata, black (10YR 2/1) moist; neutral (pH 6.8); clear wavy boundary.

C1—16 to 26 inches; light brownish gray (10YR 6/2) finely stratified ashy sandy loam, dark grayish brown (10YR 4/2) moist; moderate coarse prismatic structure parting to strong thick platy; very hard, friable, slightly sticky and slightly plastic; few very fine through medium roots; few very fine tubular pores;

- common medium distinct dark yellowish brown (10YR 3/4) relict masses of iron accumulation, black (10YR 2/1) moist; neutral (pH 6.7); clear wavy boundary.
- C2—26 to 42 inches; light brownish gray (10YR 6/2) stratified ashy loam and ashy sandy clay loam, dark grayish brown (10YR 4/2) moist; moderate coarse prismatic structure parting to strong thick platy; very hard, firm, moderately sticky and slightly plastic; few very fine through medium roots; few very fine tubular pores; few fine distinct dark yellowish brown (10YR 3/4) moist relict masses of iron accumulation and few fine faint black (10YR 2/1) moist relict masses of manganese accumulation; slightly acid (pH 6.4); clear wavy boundary.
- C3—42 to 60 inches; light yellowish brown (2.5Y 6/3) stratified ashy loam and ashy sandy clay loam, olive brown (2.5Y 4/3) moist; massive; very hard, firm, moderately sticky and slightly plastic; few very fine roots; common very fine tubular pores; common fine distinct black (10YR 2/1) moist relict masses of manganese accumulation and common fine faint light olive brown (2.5Y 5/3) moist relict masses of iron accumulation; neutral (pH 6.6).

Type location: Washoe County, Nevada; about 0.5 mile south-southwest of the Wall Canyon Ranch and just south of the Sheldon National Wildlife Refuge boundary; about 100 feet south and 1,300 feet west of the northeast corner of section 4, T.42 N., R.23 E.; USGS Nut Mountain 7.5 minute topographic quadrangle; 41 degrees, 35 minutes, 33 seconds north latitude and 119 degrees, 23 minutes, 09 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist in winter and spring, dry from mid-June through October; aridic moisture regime that borders on xeric.

Mean annual soil temperature: 47 to 50 degrees F.

Mollic epipedon thickness: 10 to 20 inches.

Volcanic glass content: 60 to 90 percent total in the very fine sand and fine sand fractions throughout; 25 to 50 percent is glass shards with the remainder as glass-coated grains and glass aggregates.

Particle-size control section:

Clay content—Averages 18 to 27 percent.

Rock fragments—Less than 10 percent, mainly pebbles. Lithology of fragments are volcanic rocks such as rhyolitic tuff.

Other features—Organic matter decreases irregularly with depth. Some pedons have C horizons below depths of 36 inches with stratified textures of sandy loam to silty clay loam. Thin discontinuous

strata having up to 35 percent volcanic pebbles are present in some pedons.

A horizons:

Hue—10YR or 2.5Y.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—1 or 2, dry or moist.

Reaction—Neutral or slightly alkaline.

Organic matter content—2 to 4 percent.

C horizons:

Hue—10YR through 5Y.

Value—6 through 8 dry, 4 or 5 moist.

Chroma—1 through 3, dry or moist.

Reaction—Neutral to moderately alkaline.

Structure—Weak or moderate fine to coarse prismatic parting to platy or blocky, or is massive.

Texture—Usually stratified gravelly ashy loamy sand to ashy silty clay loam. Averages ashy loam or ashy sandy clay loam when mixed.

Redoximorphic features—Relic redox concentrations are present in most pedons.

Weimer series

The Weimer series consists of very deep, poorly drained soils that formed in mixed alluvium and lacustrine sediments from volcanic sources. Weimer soils are on lake plains. Slopes are 0 to 2 percent. Mean annual precipitation is about 13 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Very-fine, smectitic, frigid Xeric Epiaquerts

Typical pedon: Weimer clay in an area of map unit 588, rangeland (Colors for dry soils unless otherwise noted). Vertical cracks 1 to 4 inches wide extend from the soil surface to a depth of 20 inches.

A1—0 to 3 inches; dark gray (10YR 4/1) clay, very dark gray (10YR 3/1) moist; strong very fine granular structure; very hard, friable, very sticky and very plastic; many very fine and fine roots; many fine interstitial pores; neutral (pH 7.2); clear smooth boundary.

A2—3 to 7 inches; dark gray (10YR 4/1) clay, very dark gray (10YR 3/1) moist; strong fine and medium subangular blocky structure; very hard, very firm, very sticky and very plastic; many very fine and fine roots; many very fine interstitial and few fine tubular pores; common pressure cutans; neutral (pH 7.3); clear smooth boundary.

Bss1—7 to 26 inches; dark gray (10YR 4/1) clay, very dark gray (10YR 3/1) moist; strong medium and coarse angular blocky structure; very hard, very firm, very sticky and very plastic; many very fine and fine roots; many very fine interstitial and few fine tubular pores; many slickensides; many wedge-shaped aggregates tilted 30 degrees from horizontal; few fine distinct yellowish brown (10YR 5/4) iron masses on faces of peds; slightly alkaline (pH 7.4); gradual wavy boundary.

Bss2—26 to 48 inches; dark gray (10YR 4/1) clay, very dark gray (10YR 3/1) moist; strong medium and coarse angular blocky structure; very hard, very firm, very sticky and very plastic; few very fine and fine roots; common very fine interstitial and few fine tubular pores; many slickensides; many wedge-shaped aggregates tilted 30 degrees from horizontal; few fine distinct yellowish brown (10YR 5/4) iron masses on faces of peds; slightly effervescent; moderately alkaline (pH 8.4); clear smooth boundary.

Bk—48 to 62 inches; dark gray (10YR 4/1) clay, very dark grayish brown (10YR 3/2) moist; massive; very hard, very firm, very sticky and very plastic; few very fine roots; few very fine and fine tubular pores; common fine and medium white (10YR 8/1) soft masses of lime; strongly effervescent; moderately alkaline (pH 8.4).

Type location: Washoe County, Nevada in Garden Lake Flat; about 600 feet east and 600 feet south of the north-west corner of section 12, T.35 N., R.18 E.; 40 degrees, 55 minutes, 42 seconds north latitude and 119 degrees, 54 minutes, 56 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Moist in winter and spring, ponded for long or very long duration in spring and early summer, dry summer and fall.

Aquic conditions: Saturated within a depth of 20 inches in spring and early summer.

Soil temperature: 43 to 47 degrees F.

Summer soil temperature: 61 to 63 degrees F.

Depth to carbonates: 20 to 40 inches

Control section:

Clay content—60 to 75 percent

Other features—When dry, vertical cracks 0.5 inches to 4 inches wide extend from the soil surface to a depth of 20 to 30 inches or more. The cracks are closed in winter to early summer. Gilgai micro relief is evident in most areas.

A horizons:

Hue—Neutral, 10YR or 2.5Y.

Value—4 or 5 dry, 2 through 3.5 moist.

Chroma—0 or 1.

Reaction—Neutral, slightly alkaline to strongly alkaline in saline phases.

Electrical conductivity—Less than 1 or 8 to 16 millimhos per centimeter in saline phases.

Bss horizons:

Hue—Neutral, 10YR or 2.5Y.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—0 or 1.

Structure—Prismatic or angular blocky.

Reaction—Slightly or moderately alkaline. Slightly alkaline to strongly alkaline in saline phases.

Effervescence—Noneffervescent or slightly effervescent.

Electrical conductivity—0 to 8 millimhos per centimeter.

Other features—Common or many slickensides and wedge-shaped aggregates. Few or common distinct redox concentrations.

Bk horizons:

Hue—Neutral, 10YR or 2.5Y.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—0 through 2.

Texture—Clay or silty clay.

Reaction—Moderately alkaline or strongly alkaline.

Effervescence—Slightly effervescent to strongly effervescent. None to many fine to large soft masses of lime.

Welch series

The Welch series consists of very deep, poorly drained and very poorly drained soils that formed in alluvium derived from volcanic rocks and vitric pyroclastic materials. Welch soils are on flood plains. Slopes are 0 to 4 percent. The mean annual precipitation is about 14 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Fine-loamy, mixed, superactive, frigid Cumulic Endoaquolls

Typical pedon: Welch clay loam in an area of Washoe County, NV, North Part, meadow (Colors for dry soil unless otherwise noted).

A1—0 to 5 inches; very dark gray (10YR 3/1) clay loam, black (10YR 2/1) moist; moderate thin platy structure; slightly hard, friable, moderately sticky and moderately plastic; many very fine roots; many very fine tubular pores; neutral (pH 6.6); abrupt smooth boundary.

A2—5 to 16 inches; very dark gray (10YR 3/1) silty clay loam, black (10YR 2/1) moist; moderate very fine and fine granular structure; hard, friable, moderately sticky and moderately plastic; few fine and many very fine roots; many very fine tubular and interstitial pores; neutral (pH 6.8); gradual smooth boundary.

A3—16 to 28 inches; dark gray (10YR 4/1) sandy clay loam, black (10YR 2/1) moist; weak medium prismatic structure; hard, friable, moderately sticky and moderately plastic; few fine and very fine roots; few fine tubular and many very fine interstitial and tubular pores; few fine distinct dark yellowish brown (10YR 3/4) masses of iron accumulation lining pores, neutral (pH 6.8); gradual smooth boundary.

ACg—28 to 43 inches; dark gray (N 4/0) sandy clay loam, black (N 2.5/) moist; massive; hard, firm, sticky and plastic; few fine and very fine roots; few fine tubular, and many very fine interstitial and tubular pores; neutral (pH 6.8); gradual smooth boundary.

Cg—43 to 60 inches; gray (5Y 5/1) sandy clay loam, very dark gray (5Y 3/1) moist; massive; hard, friable, sticky and plastic; few very fine and fine roots; few fine tubular and many very fine interstitial and tubular pores; neutral (pH 6.8).

Type location: Washoe County, Nevada; 150 feet west and 2,000 feet south of the northeast corner of section 1, T.42 N., R.18 E.; 41 degrees, 35 minutes, 29 seconds north latitude and 119 degrees, 54 minutes, 25 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Welch soils are saturated and have aquic conditions for a least one month during normal years. Aquic conditions are often present at or near the soil surface, mainly during the late winter and early spring months. The water table drops to a depth of 18 to 36 inches from early spring through September.

Soil temperature: 41 to 46 degrees F.

Mollic epipedon thickness: 26 to over 60 inches, organic matter decreases irregularly with depth.

Profile reaction: Slightly acid to slightly alkaline.

Control section:

Clay content—Averages 27 to 35 percent.

Other features—The parent material typically has a large amount of vitric pyroclastic material such as volcanic ash. Buried A horizons are common.

Some pedons have gravelly strata or strata of silty clay loam, silt loam, clay, loam, very fine sandy loam, or sandy loam.

A and ACg horizons:

Hue—10YR through 5Y or neutral (N).

Value—3 through 5 dry, 2 or 3 moist.

Chroma—0 through 3 in the upper part and 0 through 2 in the lower part.

Redoximorphic features—Few to many, fine or medium, distinct or prominent zones of iron or manganese accumulation either lining pores or as masses within the matrix. Zones of iron depletion may also be present.

Cg and C horizons:

Hue—10YR through 5B, or neutral (N).

Value—5 through 8 dry, 3 through 5 moist.

Chroma—0 through 2.

Structure—Prismatic or is massive.

Texture—Stratified sandy loam to silty clay loam, stratified very fine sandy loam to gravelly clay loam, or stratified sandy clay loam to silty clay loam. Some pedons have horizons below 40 inches that are stratified very gravelly loamy sand to extremely gravelly coarse sand.

Consistence—Slightly hard or hard dry, very friable or friable moist. Slightly sticky or moderately sticky and slightly plastic or moderately plastic.

Redoximorphic features—None to many, fine to coarse zones of iron or manganese accumulation either lining pores or as masses within the matrix. Zones of iron depletion may also be present.

Welltomas series

The Welltomas series consists of very shallow and shallow, well drained soils that formed in volcanic ash and colluvium over residuum derived from andesitic tuff or tuff-breccia. Welltomas soils are on mountains. Slopes are 4 to 50 percent. The mean annual precipitation is about 20 inches and the mean annual temperature is about 43 degrees F.

Taxonomic class: Ashy-skeletal, glassy, frigid Lithic Argixerolls

Typical pedon: Welltomas very gravelly ashy loam in an area of map unit 353, rangeland. (Colors are for dry soil unless otherwise noted). The soil surface is partly covered by 45 percent gravel, 5 percent cobbles and 5 percent stones.

A—0 to 2 inches; brown (10YR 5/3) very gravelly ashy loam, dark brown (10YR 3/3) moist; weak fine subangular blocky structure; soft, very friable, nonsticky, nonplastic; common fine roots and many very fine roots; common very fine interstitial and tubular pores; 50 percent pebbles; neutral, (pH 6.8); clear smooth boundary.

Bt—2 to 7 inches; brown (7.5YR 5/2) very gravelly ashy clay loam, dark brown (7.5YR 3/2) moist; moderate fine and medium subangular blocky structure; slightly hard, friable, moderately sticky, moderately plastic; common very fine and fine roots; common very fine interstitial and tubular pores; 20 percent distinct clay films on all faces of peds and 20 percent distinct clay films on surfaces along pores; 50 percent pebbles; neutral, (pH 6.9); abrupt wavy boundary.

R—7 inches; unweathered andesitic tuff-breccia.

Type location: Modoc County, California; on the Modoc National Forest in the Warner Mountains; 800 feet north and 1,800 feet east of the southwest corner of section 3, T.42 N., R.15 E.; Cedarville USGS 7.5 minute topographic quadrangle; 41 degrees, 31 minutes, 03 seconds north latitude and 120 degrees, 13 minutes, 40 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: These soils are usually moist in winter, spring, and early summer, dry later in summer and fall; xeric soil moisture regime.

Soil temperature: 43 to 47 degrees F.

Oxalate extractable A1 + 1/2 Fe: 0.2 to 0.4 percent.

Volcanic glass content: 50 to 80 percent in the coarse silt through fine sand fractions.

Mollic epipedon thickness: 7 to 14 inches.

Depth to bedrock: 7 to 14 inches to hard bedrock. The lithic materials below the contact are pyroclastic andesitic tuff or tuff-breccia.

Reaction: Slightly acid or neutral.

Particle-size control section:

Clay content—Averages 18 to 27 percent, (field estimates).

Rock fragments—35 to 60 percent, mainly gravel and cobbles.

A horizons:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Organic matter content—1 to 2 percent.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3, dry or moist.

Texture—Ashy loam, ashy clay loam, or ashy sandy clay loam.

Clay content—18 to 30 percent.

Rock fragments—35 to 60 percent.

Structure—Moderate or strong, fine to coarse subangular blocky.

Organic matter content—1 to 2 percent.

Westbutte series

The Westbutte series consists of moderately deep, well drained soils that formed in colluvium weathered from basalt, tuff and andesite. Westbutte soils are on plateaus. Slopes are 4 to 50 percent. The mean annual precipitation is about 15 inches and the mean annual temperature is about 42 degrees F.

Taxonomic class: Loamy-skeletal, mixed, superactive, frigid Pachic Haploxerolls

Typical pedon: Westbutte cobbly loam in an area of Humboldt County, NV, West Part, rangeland (Colors are for dry soil unless otherwise noted.) The surface is partially covered with 1 percent stones, 10 percent cobbles, and 20 percent pebbles.

A—0 to 6 inches; grayish brown (10YR 5/2) cobbly loam, very dark grayish brown (10YR 3/2) moist; weak thin platy structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine vesicular pores; 1 percent stones, 10 percent cobbles and 5 percent pebbles; neutral (pH 7.0); abrupt wavy boundary.

AB—6 to 15 inches; dark grayish brown (10YR 4/2) very cobbly loam, very dark grayish brown (10YR 3/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; many very fine roots; many very fine tubular pores; 15 percent pebbles, 20 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.

Bw—15 to 28 inches; brown (10YR 5/3) very cobbly clay loam, dark brown (10YR 3/3) moist; weak fine, subangular blocky structure; slightly hard, friable, sticky and plastic; common very fine roots; many very fine tubular pores; 10 percent pebbles, 40 percent cobbles; neutral (pH 7.0); abrupt wavy boundary.

R—28 inches; fractured volcanic bedrock.

Type location: Humboldt County, Nevada; approximately 9 miles east of Denio, about 2,400 feet west and 1,000 feet north of the southeast corner of section 2, T.47 N., R.31 E.; 41 degrees, 58 minutes,

39 seconds north latitude and 118 degrees, 28 minutes, 08 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually moist, dry for 60 to 90 consecutive days after the summer solstice. The soils are warmer than 41 degrees F. from May 1 to November 1.

Mean annual soil temperature: 40 to 47 degrees F.

Depth to bedrock: 20 to 40 inches.

Mollic epipedon: 20 to 40 inches.

Solum thickness: 20 to 40 inches.

Particle-size control section:

Clay content—18 to 30 percent

Rock fragments—35 to 70 percent gravel, cobbles, and stones.

A horizon:

Value—3 to 5 dry, 2 or 3 moist.

Chroma—1 or 2, dry and moist.

Texture—0 to 5 percent pumiceous ash. It is loam, very cobbly loam, cobbly loam, stony loam, very stony loam, and extremely stony loam.

Rock fragments—0 to 50 percent cobbles and stones and 0 to 30 percent gravel.

Reaction—Slightly acid or neutral.

Other features—Some pedons have an AB horizon having value of 4 or 5 dry and 2 or 3 moist.

Bw horizon:

Hue—10YR or 7.5YR.

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3 moist, 2 to 4 dry.

Structure—Subangular blocky, granular, or both.

Rock fragments—Cobbly clay loam, extremely cobbly loam, very cobbly clay loam, very stony loam or very cobbly loam. It has 20 to 50 percent cobbles, 0 to 20 percent stones and 5 to 30 percent gravel.

Reaction—Neutral or slightly alkaline.

Wetvit series

The Wetvit series consists of very deep, very poorly drained soils that formed in alluvium derived from pyroclastic volcanic rocks. Wetvit soils are on flood plains on plateaus. Slopes are 0 to 2 percent. The mean annual precipitation is about 13 inches and the mean annual temperature is about 46 degrees F.

Taxonomic class: Ashy, glassy, mesic Aquandic Endoaquolls

Typical pedon: Wetvit ashy loam in an area of Washoe County, NV, North Part, wet meadow. (Colors are for dry soil unless otherwise noted).

A1—0 to 5 inches; dark grayish brown (10YR 4/2) ashy loam, very dark brown (10YR 2/2) moist; weak fine subangular blocky structure; hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine tubular pores; slightly acid (pH 6.3); clear smooth boundary.

A2—5 to 16 inches; dark gray (10YR 4/1) ashy loam, black (N 2.5/) moist; weak medium prismatic structure parting to moderate medium subangular blocky; very hard, very friable, moderately sticky and slightly plastic; common fine and very fine roots; common very fine tubular pores; few fine prominent brownish yellow (10YR 6/8) masses of iron accumulation on faces of peds, yellowish brown (10YR 5/8) moist; slightly acid (pH 6.3); clear smooth boundary.

A3—16 to 30 inches; gray (N 5/) finely stratified ashy loam, black (10YR 2/1) moist; weak medium prismatic structure parting to moderate medium subangular blocky; hard, very friable, moderately sticky and moderately plastic; few fine and very fine roots; common very fine and fine tubular pores; common medium distinct olive brown (2.5Y 4/3) moist and few fine prominent strong brown (7.5YR 4/6) moist masses of iron accumulation in the matrix and lining pores; few fine faint black (N 2.5) moist masses of manganese accumulation in the matrix; few 1 to 2 millimeter brown (7.5YR 4/4) moist interior, yellowish brown (10YR 5/6) moist exterior iron concretions; neutral (pH 6.6); clear smooth boundary.

A4—30 to 41 inches; gray (10YR 5/1) finely stratified ashy loam, very dark gray (10YR 3/1) moist; weak medium prismatic structure parting to moderate medium subangular blocky; hard, very friable, moderately sticky and moderately plastic; few very fine roots; common very fine tubular pores; common fine and medium distinct olive brown (2.5Y 4/3) moist and few fine prominent strong brown (7.5YR 4/6) moist masses of iron accumulation in the matrix and lining pores; common fine faint dark gray (10YR 4/1) moist zones of clay depletion; neutral (pH 6.6); abrupt smooth boundary.

2C1—41 to 53 inches; gray (10YR 6/1) gravelly ashy loamy sand, dark gray (10YR 4/1) moist; massive; soft, very friable, nonsticky and nonplastic; few very fine roots; many very fine interstitial pores; common fine prominent olive (5Y 4/4) moist masses of iron accumulation in the matrix and lining pores; 15

percent fine (2 to 5 millimeter diameter) rhyolitic tuff pebbles; neutral (pH 6.6); abrupt smooth boundary. 3C2—53 to 60 inches; light brownish gray (2.5Y 6/2) finely stratified ashy loam, light olive brown (2.5Y 5/3) moist; massive; hard, very friable, sticky and plastic; few very fine roots; common very fine tubular pores; many coarse prominent gray (N 5/) and few coarse prominent greenish gray (5G 5/1) moist zones of clay depletion; common fine and medium distinct olive (5Y 4/4) moist masses of iron accumulation; few fine prominent very dark gray (N 3/) moist, common fine prominent dark yellowish brown (10YR 4/6) moist, and olive (5Y 5/6) moist masses of iron accumulation lining pores; neutral (pH 6.6).

Type location: Humboldt County, Nevada; south of Badger Mountain and about 0.25 mile south of the Sheldon National Wildlife Refuge boundary along Cottonwood Canyon; about 300 feet west and 200 feet south of the northeast corner of section 7, T.42 N., R.24 E.; USGS Badger Mountain SE 7.5 minute topographic quadrangle; 41 degrees, 35 minutes, 23 seconds north latitude and 119 degrees, 18 minutes, 08 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually saturated in the moisture control section due to an apparent high water table from the soil surface to 18 inches mainly during the late winter and early spring months; seasonal periods of aquic moisture regime.

Mean annual soil temperature: 47 to 50 degrees F.

Mollic epipedon thickness: 26 to 48 inches.

Volcanic glass content: 35 to 60 percent glass shards, glass-coated grains, and glass aggregates in the very fine and fine sand size throughout.

Particle-size control section:

Clay content—Averages 18 to 27 percent.

Rock fragments—Less than 15 percent.

Other features—Organic matter decreases irregularly with depth and buried A horizons are common.

Some pedons have gravelly strata or strata of silty clay loam, silt loam, clay loam, very fine sandy loam or sandy loam. Due to calcareous eolian dust, some pedons are effervescent in the surface layer.

A1 and A2 horizons:

Hue—10YR through 5Y or neutral (N).

Value—3 through 5 dry, 2 or 3 moist.

Chroma—0 through 2, dry or moist.

Texture—Ashy loam or ashy fine sandy loam.

Reaction—Slightly acid through slightly alkaline.

Organic matter content—2 to 4 percent.

Redoximorphic features—Few to many redox concentrations either as masses of iron accumulation in the matrix or as pore linings within 17 inches of the soil surface.

A3 horizon and A4 horizon:

Hue—10YR through 5Y or neutral (N).

Value—3 through 5 dry, 2 or 3 moist.

Chroma—0 through 2, dry or moist.

Texture—Stratified ashy sandy loam to ashy clay loam.

Reaction—Slightly acid through slightly alkaline.

Organic matter content—1 or 2 percent.

Redoximorphic features—Few to many redox concentrations either as masses of iron and manganese accumulation in the matrix or as pore linings; some pedons have fine manganese or iron-manganese concretions.

C horizons:

Hue—10YR through 5Y or neutral (N).

Value—5 through 8 dry, 3 through 5 moist.

Chroma—0 through 3, dry or moist.

Texture—Mainly ashy loam with strata of gravelly ashy loamy sand to ashy clay loam.

Structure—Prismatic or is massive.

Reaction—Neutral through slightly alkaline.

Redoximorphic features—None to many fine to coarse redox concentrations either as masses of iron accumulation in the matrix or as pore linings; zones of iron depletion may also be present.

Wylo series

The Wylo series consists of shallow, well drained soils that formed in residuum and colluvium derived from basalt. Wylo soils are on hills and plateaus. Slopes are 4 to 30 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 50 degrees F.

Taxonomic class: Clayey, smectitic, mesic Lithic Argixerolls

Typical pedon: Wylo very stony loam in an area of Washoe County, NV, Central Part, rangeland. (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 7 percent stones, 5 percent cobbles, and 45 percent pebbles.

A—0 to 4 inches; brown (7.5YR 5/2) very stony loam, dark brown (7.5YR 3/2) moist; moderate medium

platy structure parting to weak fine subangular blocky; slightly hard, very friable, slightly sticky and slightly plastic; common very fine roots; few very fine vesicular and common very fine tubular pores; 20 percent pebbles, 5 percent cobbles, and 10 percent stones; neutral (pH 7.0); clear smooth boundary.

Bt1—4 to 7 inches; brown (7.5YR 5/2) gravelly clay loam, dark brown (7.5YR 3/2) moist; moderate fine and medium angular blocky structure; slightly hard, very friable, moderately sticky and moderately plastic; common very fine and fine roots; common very fine tubular pores; few distinct and many faint clay films on faces of peds and lining pores; 20 percent pebbles and 10 percent cobbles; neutral (pH 7.0); clear smooth boundary.

Bt2—7 to 11 inches; brown (7.5YR 5/2) gravelly clay, brown (7.5YR 4/2) moist; moderate fine and medium prismatic structure parting to strong fine and medium angular blocky; very hard, friable, very sticky and very plastic; few very fine and fine roots; common very fine tubular pores; many prominent pressure cutans on faces of peds; 20 percent pebbles and 10 percent cobbles; neutral (pH 7.0); clear wavy boundary.

Bt3—11 to 15 inches; brown (7.5YR 5/4) very cobbly clay, brown (7.5YR 4/4) moist; strong fine angular blocky structure; very hard, friable, very sticky and very plastic; few very fine and fine roots; few very fine tubular pores; many prominent pressure cutans on faces of peds; 10 percent pebbles and 30 percent cobbles; neutral (pH 7.0); abrupt irregular boundary.

R—15 inches; hard fractured basalt.

Type location: Washoe County, Nevada; west of the Smoke Creek Desert about 1 mile southeast of Burro Mountain Pass; about 2,500 feet south and 1,300 feet west of the northeast corner of section 17, T.31 N., R.19 E.; USGS Salt Marsh 7.5 minute topographic quadrangle; 40 degrees, 33 minutes, 44 seconds north latitude and 119 degrees, 51 minutes, 55 seconds west longitude, NAD 27.

Range in Characteristics:

Soil moisture: Usually moist during winter and spring, dry during summer and fall; arid moisture regime that borders on xeric.

Mean annual soil temperature: 54 to 59 degrees F.

Mollic epipedon thickness: 7 to 11 inches, includes at least one upper subhorizon of the argillic horizon.

Depth to base of argillic horizon: 14 to 20 inches.

Depth to bedrock: 14 to 20 inches to a lithic contact.

Reaction: Neutral or slightly alkaline.

Particle-size control section:

Clay content—35 to 50 percent.

Rock fragments—Averages 15 to 35 percent, mainly pebbles and cobbles. Lithology of fragments are volcanic rocks such as basalt.

A horizon:

Hue—7.5YR or 10YR.

Chroma—2 or 3, dry or moist.

Organic matter content—1 or 2 percent.

Bt horizons:

Hue—7.5YR or 10YR.

Value—3 or 4 moist, 4 or 5 dry.

Chroma—2 or 3 in the Bt1 and Bt2 horizons, 3 or 4 in the Bt3 horizon, dry or moist.

Texture—Gravelly clay loam, gravelly clay, or cobbly clay.

Clay content—35 to 50 percent; some pedons have thin subhorizons with up to 55 percent.

Rock fragments—15 to 35 percent; some pedons have thin subhorizons with up to 45 percent.

Organic matter content—1 or 2 percent.

Yellowhills series

The Yellowhills series consists of very deep, well drained soils that formed in alluvium high in volcanic ash. The Yellowhills soils are on inset fans. Slopes are 0 to 2 percent. The mean annual precipitation is about 11 inches and the mean annual temperature is about 45 degrees F.

Taxonomic class: Ashy, glassy, mesic Vitritorrandic Haploxerolls

Typical pedon: Yellowhills ashy sandy loam in an area of Humboldt County, NV, West Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 2 inches; grayish brown (10YR 5/2) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; moderate thin platy structure; soft, very friable, slightly sticky and slightly plastic; common very fine and few fine roots; many very fine tubular and vesicular pores; neutral (pH 6.8); clear smooth boundary.

A2—2 to 17 inches; brown (10YR 5/3) ashy sandy loam, very dark grayish brown (10YR 3/2) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; neutral (pH 6.8); clear smooth boundary.

Bw—17 to 37 inches; pale brown (10YR 6/3) ashy sandy loam, brown (10YR 4/3) moist; massive; soft, very friable, slightly sticky and slightly plastic; common very fine and fine roots; many very fine tubular pores; neutral (pH 6.8); clear smooth boundary.

Bq—37 to 60 inches; pale brown (10YR 6/3) sandy loam, brown (10YR 4/3) moist; massive; slightly hard, very friable, slightly sticky and slightly plastic; few very fine and fine roots; many very fine tubular pores; 10 percent weakly cemented durinodes; neutral (pH 7.0).

Type location: Humboldt County, Nevada, approximately 10 miles northwest of Summit Lake, in an unsurveyed area about 5,660 feet north and 450 feet east of the northwest corner of section 11, T.42 N., R.24 E.; 41 degrees, 36 minutes, 30 seconds north latitude; 119 degrees, 14 minutes, 25 seconds west longitude NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist in winter and spring; dry from late June through October. Aridic bordering xeric moisture.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon thickness: 10 to 20 inches.

Depth to Bq horizons: 25 to 40 inches.

Reaction: Neutral or slightly alkaline.

Control section:

Clay content—8 to 15 percent.

Rock fragments—0 to 15 percent.

Volcanic glass content—60 to 80 percent of the 0.02 to 2 mm fraction.

A horizon:

Chroma—2 or 3

Bw horizons:

Value—3 or 4 moist.

Chroma—3 or 4.

Texture—Ashy sandy loam or ashy fine sandy loam.

Clay content—8 to 15 percent.

Rock fragments—0 to 15 percent.

Bq horizons:

Value—3 or 4 moist.

Chroma—3 or 4.

Texture—Sandy loam or fine sandy loam.

Clay content—8 to 15 percent.

Rock fragments—0 to 15 percent

Consistence—Soft or slightly hard, very friable or friable.

Other features—Has 5 to 15 percent weakly cemented durinodes or has few thin strata of discontinuous weak cementation. Some pedons have segregated lime.

Zorravista series

The Zorravista series consists of very deep, excessively drained soils that formed in mixed aeolian material. The Zorravista soils are on semi-stabilized sand dunes. Slopes are 0 to 15 percent. The mean annual precipitation is about 9 inches and the mean annual temperature is about 48 degrees F.

Taxonomic class: Mixed, mesic Xeric Torripsamments

Typical pedon: Zorravista fine sand in an area of map unit 601, rangeland. (Colors are for dry soil unless otherwise noted.)

A—0 to 4 inches; light brownish gray (2.5Y 6/2) fine sand, very dark grayish brown (2.5Y 3/2) moist; single grain; loose when dry and moist, nonsticky and nonplastic; few micro roots; many very fine and fine interstitial pores; strongly effervescent; moderately alkaline (pH 8.2); clear smooth boundary.

C1—4 to 29 inches; light brownish gray (2.5Y 6/2) fine sand, dark grayish brown (2.5Y 4/2) moist; single grain; loose when dry and moist, nonsticky and nonplastic; common very fine and few fine roots; many very fine and fine interstitial pores; slightly effervescent; moderately alkaline (pH 8.0); diffuse smooth boundary.

C2—29 to 60 inches; light brownish gray (2.5Y 6/2) fine sand, dark grayish brown (2.5Y 4/2) moist; single grain; loose when dry and moist, nonsticky and nonplastic; many micro and few very fine and fine roots; many very fine and fine interstitial pores; slightly effervescent; moderately alkaline (pH 8.0).

Type location: Washoe County, Nevada; The site is located about 200 feet north and west of the southeast corner of section 17, T.37 N., R.19 E.; 41 degrees, 5 minutes, 2 seconds north latitude and 119 degrees, 52 minutes, 7 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, dry mid spring through fall, moist winter and early spring. Aridic bordering xeric moisture.

Soil temperature: 47 to 52 degrees F.

Other features: Effervescent to at least 20 inches.

Control section:

Clay content—Less than 5 percent.

A horizon:

Hue—10YR, 2.5Y.

Value—6 or 7 dry, 3 through 6 moist.

Chroma—1 through 4.

Reaction—Moderately alkaline or strongly alkaline.

Structure—Single grain or platy.

Effervescence—Slightly effervescent or strongly effervescent.

C horizons:

Hue—10YR or 2.5Y.

Value—5 through 8 dry, 3 through 6 moist.

Chroma—1 through 4.

Texture—Fine sand, sand or loamy fine sand.

Clay content—Less than 5 percent in the upper part.

Reaction—Slightly alkaline through strongly alkaline.

Structure—Single grain or massive.

Effervescence—Noneffervescent to strongly effervescent.

Consistence—Soft to slightly hard or loose dry, very friable or loose moist.

Other features—Some pedons contain lacustrine lake sediments below 44 inches.

friable, nonsticky and nonplastic; many very fine roots; many very fine tubular and interstitial pores; 30 percent hard volcanic pebbles; moderately acid (pH 5.8); abrupt wavy boundary.

A2—1 to 5 inches; dark brown (10YR 3/3) very gravelly ashy sandy loam, black (10YR 2/1) moist; moderate medium subangular blocky structure parting to moderate fine granular; soft, very friable, nonsticky and nonplastic; many very fine, common fine through very coarse roots; many very fine and few fine tubular pores; 35 percent hard volcanic pebbles and 5 percent cobbles; slightly acid (pH 6.2); clear wavy boundary.

A3—5 to 11 inches; dark grayish brown (10YR 4/2) very gravelly ashy sandy loam, very dark brown (10YR 2/2) moist; moderate fine subangular blocky structure parting to moderate fine granular; soft, very friable, nonsticky and nonplastic; many very fine and fine and common medium through very coarse roots; many very fine tubular and interstitial pores; 45 percent hard volcanic pebbles and 5 percent cobbles; slightly acid (pH 6.4); clear smooth boundary.

Bw1—11 to 18 inches; light brownish gray (10YR 6/2) extremely gravelly ashy sandy loam, dark grayish brown (10YR 4/2) moist; weak fine subangular blocky structure; soft, very friable, slightly sticky and slightly plastic; common very fine through very coarse roots; many very fine and few fine tubular pores; 60 percent hard volcanic pebbles and 5 percent cobbles; slightly acid (pH 6.2); abrupt wavy boundary.

Bw2—18 to 31 inches; light brownish gray (10YR 6/2) extremely gravelly ashy fine sandy loam, brown (10YR 4/3) moist; moderate fine subangular blocky structure; soft, very friable, nonsticky and nonplastic; common very fine through very coarse roots; many very fine and common fine tubular pores; 65 percent hard volcanic pebbles; 5 percent cobbles; 5 percent 5 to 15 millimeter strong brown (7.5YR 5/6) and brown (7.5YR 5/4) redox concentrations on faces of peds and on rock fragments, strong brown (7.5YR 4/6) moist; slightly acid (pH 6.2); abrupt wavy boundary.

C—31 to 60 inches; light gray (10YR 7/2) extremely gravelly ashy fine sandy loam, brown (10YR 5/3) moist; massive; slightly hard, very friable, nonsticky and nonplastic; few very fine and fine and common fine through coarse roots; many very fine and common fine tubular pores; 55 percent hard volcanic pebbles; 25 percent cobbles; 2 percent 5 to 15 millimeter strong brown (7.5YR 5/6) and brown (7.5YR 5/4) redox concentrations on faces of peds and on rock fragments, strong brown (7.5YR 4/6) moist; slightly acid (pH 6.4).

Zorromount series

The Zorromount series consists of very deep, well drained soils formed in colluvium from volcanic and pyroclastic rocks. The Zorromount soils are on mountain side slopes. Slopes are 4 to 30 percent. The mean annual precipitation is about 16 inches and the mean annual temperature is about 44 degrees F.

Taxonomic class: Ashy-skeletal, glassy Vitrandic Haplocryolls

Typical pedon: Zorromount gravelly ashy mucky sandy loam in an area of map unit 602, rangeland (Colors are for dry soil unless otherwise noted.) The soil surface is partially covered with 45 percent volcanic pebbles and 5 percent cobbles and approximately 2 inches of undecomposed leaves and twigs.

A1—0 to 1 inches; very dark grayish brown (10YR 3/2) gravelly ashy mucky fine sandy loam, black (10YR 2/1) moist; moderate medium subangular blocky structure parting to moderate fine granular; soft, very

Type location: Washoe County, Nevada. On the east side of Fox Mountain; about 1,000 feet north and 2,500 feet east of the southwest corner of section 4, T.36 N., R.22 E.; Fox Mountain USGS Quadrangle. 41 degrees, 01 minute, 36.1 seconds north latitude and 119 degrees, 30 minutes, 45.0 seconds west longitude. NAD27.

Range in Characteristics:

Soil moisture: Usually moist, moist in winter and spring, dry July through October; xeric moisture regime that borders on aridic.

Mean annual soil temperature: 44 to 47 degrees F.

Mean summer soil temperature: 54 to 59 degrees F.

Mollic epipedon thickness: 10 to 15 inches.

Depth to base of the Bw horizon: 25 to 35 inches.

Mineralogy: 60 to 95 percent volcanic glass in the very fine and fine sand size throughout.

Control section:

Clay content—8 to 15 percent.

Rock fragments—60 to 80 percent pebbles and cobbles.

A horizons:

Value—3 through 5 dry.

Chroma—1 through 3.

Reaction—Moderately acid or slightly acid.

Bw horizons:

Value—5 or 6 dry.

Chroma—2 or 3.

Reaction: Moderately acid or slightly acid

C horizons:

Value—6 or 7 dry, 3 through 5 moist.

Chroma—2 through 4.

Reaction—Slightly acid or neutral.

Zymans series

The Zymans series consists of deep and very deep, well drained soils that formed in residuum and colluvium from volcanic rocks with additions of loess and ash. The Zymans soils are on hills. Slopes are 8 to 30 percent. The mean annual precipitation is about 10 inches and the mean annual temperature is about 47 degrees F.

Taxonomic class: Fine, smectitic, mesic Aridic

Argixerolls

Typical pedon: Zymans cobbly loam in an area of Washoe County, NV, North Part, rangeland. (Colors are for dry soil unless otherwise noted.)

A1—0 to 3 inches; brown (10YR 5/3) cobbly loam, dark brown (10YR 3/3) moist; moderate thin and medium platy structure; slightly hard, very friable, slightly sticky and slightly plastic; many very fine and fine roots; common very fine interstitial pores; 10 percent pebbles and 15 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

A2—3 to 8 inches; brown (10YR 5/3) loam, very dark grayish brown (10YR 3/2) moist; moderate fine subangular blocky structure; slightly hard, very friable, sticky and plastic; many very fine, common fine and few medium roots; many very fine tubular pores; 5 percent pebbles, 5 percent cobbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bt1—8 to 14 inches; grayish brown (10YR 5/2) clay, very dark grayish brown (10YR 3/2) moist; moderate fine and medium subangular blocky structure; hard, very friable, very sticky and very plastic; many very fine and common fine and medium roots; many very fine tubular pores; common thin clay films on faces of peds and in pores; 10 percent pebbles; slightly alkaline (pH 7.6); clear wavy boundary.

Bt2—14 to 27 inches; yellowish brown (10YR 5/4) clay, brown (10YR 4/3) moist; strong fine and medium prismatic structure parting to strong fine and medium angular blocky; very hard, firm, very sticky and very plastic; common very fine and fine and few medium roots; common very fine tubular pores; many thin and common moderately thick dark yellowish brown (10YR 4/4) clay films, dark brown (10YR 3/3) moist on faces of peds and in pores; 10 percent pebbles; moderately alkaline (pH 7.8); clear wavy boundary.

Bt3—27 to 37 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; strong fine prismatic structure parting to strong fine and medium angular blocky; very hard, friable, very sticky and very plastic; common very fine and few fine and medium roots; few very fine tubular pores; many thin and common moderately thick dark yellowish brown (10YR 4/4) clay films, dark brown (10YR 3/3) moist clay films on faces of peds and in pores; 5 percent pebbles; moderately alkaline (pH 8.0); clear wavy boundary.

Btk—37 to 48 inches; light yellowish brown (10YR 6/4) clay loam, dark yellowish brown (10YR 4/4) moist; moderate very fine and fine subangular blocky structure; very hard, very friable, very sticky and plastic; few very fine and fine roots; few very fine tubular pores; common thin dark yellowish brown (10Y 4/4) clay films, dark brown (10YR 3/3) moist on

faces of peds and in pores; common fine soft masses of lime; slightly effervescent; 10 percent pebbles; moderately alkaline (pH 8.4); abrupt wavy boundary.
 Cr—48 to 52 inches; white (10YR 8/1) weathered volcanic tuff, light gray (2.5Y 7/2) moist; strong medium and thick platy rock structure; common fine soft masses of lime on faces of plates.

Type location: Washoe County, Nevada; about 2,500 feet east and 4,000 feet north of the southwest corner of section 27, T.43 N., R.18 E.; 41 degrees, 37 minutes, 22 seconds north latitude and 119 degrees, 57 minutes, 16 seconds west longitude, NAD27.

Range in Characteristics:

Soil moisture: Usually dry, moist late October to mid June. Aridic bordering xeric moisture.

Soil temperature: 47 to 52 degrees F.

Mollic epipedon: 10 to 19 inches thick, includes the upper Bt horizon.

Depth to base of Bt horizon: 40 to more than 60 inches.

Depth to weathered bedrock: 40 to more than 60 inches.

Other features: Clay increase is gradual with less than a 20 percent increase within 3 inches of the boundary between the A and Bt horizon or below subhorizons of the Bt.

Control section:

Clay content—45 to 60 percent, subhorizons in some pedons range from 35 to 60 percent.

Rock fragments—5 to 20 percent.

A horizon:

Value—4 or 5 dry, 2 or 3 moist.

Chroma—2 or 3.

Reaction—Neutral or slightly alkaline.

Bt horizon:

Hue—10YR or 7.5YR.

Value—4 through 6 dry, 2 through 4 moist.

Chroma—2 through 6. (Low value and chroma are in the upper part of the horizon)

Structure—Prismatic or blocky.

Consistence—Hard to very hard, dry.

Texture—The textures of the upper part of the Bt horizon are clay and silty clay, the lower part of the Bt horizon textures are silty clay loam, clay loam and clay with 0 to 15 percent rock fragments and averages 5 to 20 percent rock fragments.

Reaction—Neutral to moderately alkaline, increasing with depth.

Secondary lime accumulation—Segregated lime below 40 inches is in most pedons.

Use and Management of the Soils

This soil survey is an inventory and evaluation of the soils in the survey area. It can be used to adjust land uses to the limitations and potentials of natural resources and the environment. Also, it can help to prevent soil-related failures in land uses.

In preparing a soil survey, soil scientists, conservationists, engineers, and others collect extensive field data about the nature and behavioral characteristics of the soils. They collect data on erosion, droughtiness, flooding, and other factors that affect various soil uses and management. Field experience and collected data on soil properties and performance are used as a basis in predicting soil behavior.

Information in this section can be used to plan the use and management of soils as rangeland and forestland; as sites for buildings, sanitary facilities, highways and other transportation systems, and parks and other recreational facilities; for agricultural waste management; and as wildlife habitat. It can be used to identify the potentials and limitations of each soil for specific land uses and to help prevent construction failures caused by unfavorable soil properties.

Planners and others using soil survey information can evaluate the effect of specific land uses on productivity and on the environment in all or part of the survey area. The survey can help planners to maintain or create a land use pattern in harmony with the natural soil.

Contractors can use this survey to locate sources of sand and gravel, roadfill, and topsoil. They can use it to identify areas where bedrock, wetness, or very firm soil layers can cause difficulty in excavation.

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

Interpretive Ratings

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

Rating Class Terms

Rating classes are expressed in the tables in terms that indicate the extent to which the soils are limited by all of the soil features that affect a specified use or in terms that indicate the suitability of the soils for the use. Thus, the tables may show limitation classes or suitability classes. Terms for the limitation classes are *not limited*, *somewhat limited*, and *very limited*. The suitability ratings are expressed as *well suited*, *moderately suited*, *poorly suited*, and *unsuited* or as *good*, *fair*, and *poor*.

Numerical Ratings

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use and the point at which the soil feature is not a limitation. The limitations appear in order from the most limiting to the least limiting. Thus, if more than one limitation is identified, the most severe limitation is listed first and the least severe one is listed last.

Crops and Pasture

General management needed for crops and pasture is suggested in this section. The estimated yields of the main crops and pasture plants are listed, and the system of land capability classification used by the Natural Resources Conservation Service is explained.

Planners of management systems for individual fields or farms should consider the detailed information given in the description of each soil under the heading "Detailed Soil Map Units". Specific information can be obtained from the local office of the Natural Resources Conservation Service or Cooperative Extension.

Yields per Acre

The title of the table described in this section is located in Table 5, "Irrigated Yields by Map Unit Component"

The average yields per acre shown in the yields tables in this survey are those that can be expected of the principal crops under a high level of management. In any given year, yields may be higher or lower than those indicated in the tables because of variations in rainfall and other climatic factors. The land capability classification of map units in the survey area also is shown in the tables.

The yields are based mainly on the experience and records of farmers, conservationists, and extension agents. Available yield data from nearby counties and results of field trials and demonstrations also are considered.

The management needed to obtain the indicated yields of the various crops depends on the kind of soil and the crop. Management can include drainage, erosion control, and protection from flooding; the proper planting and seeding rates; suitable high-yielding crop varieties; appropriate and timely tillage; control of weeds, plant diseases, and harmful insects; favorable soil reaction and optimum levels of nitrogen, phosphorus, potassium, and trace elements for each crop; effective use of crop residue, barnyard manure, and green

manure crops; and harvesting that ensures the smallest possible loss.

For yields of irrigated crops, it is assumed that the irrigation system is adapted to the soils and to the crops grown, that good-quality irrigation water is uniformly applied as needed, and that tillage is kept to a minimum.

Pasture yields are expressed in terms of animal unit months. An animal unit month (AUM) is the amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

The estimated yields reflect the productive capacity of each soil for each of the principal crops. Yields are likely to increase as new production technology is developed. The productivity of a given soil compared with that of other soils, however, is not likely to change.

Crops other than those shown in the yields tables are grown in the survey area, but estimated yields are not listed because the acreage of such crops is small. The local office of the Natural Resources Conservation Service or of the Cooperative Extension Service can provide information about the management and productivity of the soils for those crops.

Land Capability Classification

Land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for rangeland, for forestland, or for engineering purposes.

In the capability system, soils are generally grouped at three levels—capability class, subclass, and unit (USDA, 1961).

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

Class 1 soils have slight limitations that restrict their use.

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

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

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

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

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

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

Class 8 soils and miscellaneous areas have limitations that preclude commercial plant production

and that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes.

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

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

Capability units are soil groups within a subclass. The soils in a capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, 2*e*-4 and 3*e*-6. These units are not given in all soil surveys.

The capability classification of the soils in this survey area is given in the section "Detailed Soil Map Units" and in the yields tables.

Rangeland and Forestland Resource Management

Patti Novak-Echenique, Rangeland Ecologist, Natural Resource Conservation Service, prepared this section.

Rangeland, within this report, is considered a "kind of land" rather than a particular kind of land use.

Rangeland and forestland provide many important resource values, acting as vast watersheds, providing habitat for wildlife, offering forage to livestock, and space and beauty for recreational pursuits. The resource values of rangeland and forestland are intricately related to each other and are often directly affected by land management actions. Because of the interrelation between resources, it is appropriate that land managers consider all resource values when planning range improvements.

About 78 percent of the land in the survey area is rangeland and forestland. Livestock grazing is the principle agricultural use of these lands and the livestock operations are mostly cow-calf-sheep, or cow-calf enterprises. Ranches are a few hundred acres to several thousand acres in size. They rely heavily on permitted grazing use of public lands. Most of the grazing land within the survey area is administered by the United States Forest Service and the Bureau of Land Management.

In 1849, the most used route to the California goldfields crossed the Nevada desert from Fort Hall in present day Idaho, into Surprise Valley, and over Fandango Pass, in the Warner Mountains. It is estimated that over 300,000 settlers used this route. Originally called Deep Creek, Cedarville was a camping place for wagon trains. Grazing of livestock occurred in the lush meadows of Surprise Valley as well as en route to California. The biggest single year of settlement in Surprise Valley was in 1864. During that year, a drought in the Sacramento and San Joaquin valleys caused much of the livestock there to perish. Many of the surviving cattle were driven to the mountains and valleys that the settlers remembered while on the wagon trains to California. By 1900, the human population in the valleys adjacent to the Warner Mountains had reached several thousand, and the number of resident sheep and

cattle were 60,000 and 40,000, respectively. Cattle numbers changed little from 1890 to 1945, however, resident sheep, increased rapidly between 1890 and 1930. Contributing to the heavy grazing of these rangelands was the seasonal migration of sheep from the summer ranges in Oregon to lower elevations in California or northern Nevada. In addition, sheep drives from Idaho and Oregon to shipping points in western Nevada passed through the Warner Mountains (Vale, 1977).

The early devastation of rangeland plant communities through uncontrolled livestock grazing has long ended. However, severely depleted areas still reflect the impacts of early abusive grazing and other disturbances associated with early settlement. Where disturbance has been most severe, palatable shrubs have generally been replaced by less desirable shrubs and many native perennial grasses and forbs have been eliminated and replaced by alien or introduced annual grasses and forbs. Recovery has been most evident where previous abuses were limited or at higher elevations with greater precipitation. It is axiomatic that the greater the level of deterioration, the longer the period of recovery is for native plant communities. Also, the drier the community the less resilient it is to disturbance. Those communities receiving less than 10 inches of average annual precipitation are very slow to recover and may never recover on their own without mechanical inputs. It is important to recognize that although present day rangeland production and plant diversity in the survey area is generally less than what is potentially achievable, the overall health or condition of rangeland in the survey area today is improved from what was commonplace in the early 1900's.

Soil-Site Correlation

Landscapes are divided into basic units for study, evaluation, and management. On rangeland and forestland, these units are called ecological sites. During the course of this soil survey, range and forest ecological

sites were correlated to soils identified within the survey area. These correlations are based on our present understanding of soil-plant-climate relationships in the survey area. Soil properties, such as rooting depth and texture, that affect moisture supply and plant nutrients have the greatest influence on the productivity of range plants. Soil reaction, salt or calcium carbonate content, and topographic position are also important. Climatic relationships to vegetation and soils are accounted for in the classification of soils and in soil mapping criteria. In areas that have similar climate and topography, differences in the kind and amount of vegetation produced on rangeland are closely related to the type of soil. Dominant ecological sites can be determined from soil maps and map unit legends developed for the survey area.

An ecological site is a distinctive kind of land with specific physical characteristics that differs from other kinds of land in its ability to produce a distinctive kind and amount of vegetation. An ecological site is the product of all environmental factors responsible for its development. It can support a native plant community typified by an association of species that differs from the potential plant community of other ecological sites in the kind or proportion of species or in total production. Disturbances such as drought, fire, grazing by native fauna, or insect and disease damage are recognized as natural factors in the development of native plant communities.

Ecological Site Descriptions

Table 6, "Rangeland Productivity and Characteristic Plant Communities" shows each soil, both major and minor, while including the ecological site; the common plant name and scientific plant symbol for the characteristic vegetation; the average percent composition for each species in the potential plant community; and the total annual production of vegetation in favorable, normal, and unfavorable years. The characteristic vegetation, made up of the grasses, forbs, trees, or shrubs of the potential plant community for each soil, are listed by common name. Under composition, the expected percentage of the total annual production is given for each species making up the characteristic vegetation.

Total potential production is the amount of vegetation that can be expected to grow annually on well managed rangeland or forestland that is supporting the potential natural community. Total production includes all vegetation, whether or not it is palatable to grazing animals. It does not include the increase in stem diameter of trees and shrubs.

A more detailed description of each ecological site, identified by number, can be obtained at the local NRCS Service Center.

Rangeland and Forestland Management

Proper land management can improve present rangeland and forestland health and productivity, while preventing accelerated erosion. Multiple use management to meet present and future needs requires extensive knowledge of the resource capabilities and limitations. An understanding of the dynamics of native plant communities and the properties of associated soils is fundamental in applying ecological principals to natural resource evaluation and management.

Rangeland management requires knowledge of the kinds of soils and the potential plant communities these soils can support in a given area. A state and transition model will be used to describe vegetation dynamics and management interactions associated with each ecological site. The model provides a method to organize and communicate complex information about vegetation response to disturbances and management. A state includes one or more biological (including soil) communities that occur on a particular ecological site and that are functionally similar with respect to soil/site stability, hydrologic function and biotic integrity. States are generally distinguished by relatively large differences in plant functional groups, dynamic soil properties, and ecosystem processes, and consequently in vegetation structure, biodiversity, and management requirements. They are also distinguished by their responses to disturbance. A number of different plant communities may be included in a state, and the communities are often connected by community pathways.

Shifts between states are referred to as "transitions". Unlike community pathways, these "threshold" transitions are not reversible by simply altering the intensity or direction of factors that produced the change. Transitions among states in an ecological site are often caused by a combination of feedback mechanisms that alter soil and plant community dynamics.

The reference state is the state where the functional capacities represented by soil/site stability, hydrologic function, and biotic integrity are performing at a near optimum level under the natural disturbance regime. The reference state is used for the rangeland health evaluation, although managers may choose to manage communities in another state.

Three assessment tools: similarity index, trend, and rangeland health evaluations can be used to evaluate a

rangeland site. Similarity index is an index of where the current plant community is in relation to the historic climax plant community, or to a desired plant community that is one of the site's potential vegetation states. Trend is a determination of the direction of change in the current plant community and associated soils in relation to the historic climax plant community or some other desired plant community. Rangeland health is defined as the degree to which the integrity of the soil, vegetation, water, and air as well as the ecological processes of the rangeland ecosystem are balanced and sustained. A rangeland health assessment is designed to provide a preliminary evaluation of soil/site stability, hydrologic function, and integrity of the biotic community. This assessment can also provide early warnings of potential problems and opportunities.

Usually the objective in range management is to manage grazing so that the plants growing on a site are about the same in type and amount as the natural potential plant community for that site. Such management generally results in the optimum production of vegetation, conservation of water, and control of soil erosion. However, to meet a special need or a specific use, it may be desirable to manage for a plant community other than the potential plant community for the site. Care must always be taken when managing for a specific plant community not to increase susceptibility to soil erosion. Future uses and the relative ability of given sites to respond with management should be considered if management is directed to achieve other than the potential plant community.

Desirable forage plants of many plant communities within the survey area have been reduced by excessive and untimely grazing use in the past. There has been a general reduction of perennial grasses and an overall increase in woody plants. The productivity of forage plants generally is below the production potential on many sites. Uneven livestock distribution has allowed localized overuse and under use of the native forage.

The increase in numbers and size of sagebrush and other shrubs, and the invasion of cheatgrass (an introduced annual grass), on sagebrush-grass communities has reduced soil moisture and nutrients available to perennial grasses and forbs. Where range condition has not deteriorated too far, and an adequate population of desirable perennial grasses and forbs are available to respond to a release from competition, brush management practices can be effective in reversing the trend toward increasing dominance of woody vegetation.

Managing a forest to produce forage for livestock and wildlife, desired wildlife habitat, quality water, quality fisheries, timber production, and many other desired forest products requires an understanding of the forest

ecosystem and how it responds to the manager's decisions.

In most forests, solar energy is the major ecological component affected in the management process. Solar energy is intercepted by the canopy of the tallest trees. This causes a filtering or reduction of solar energy as it penetrates to the next layer of vegetation, whether it is a midstory of woody plants or grasses and forbs growing on the forest floor. Managing the forest ecosystem for the desired plant community and the desired production is, in a large part, accomplished by managing the plant populations in the different stories (overstory, midstory, and understory) to provide the most efficient use of solar energy by the desired plants.

One of the primary factors leading to poor tree health is too many trees closely spaced. Thinning the selective removal of individual trees is an important management practice that improves tree health and vigor and decreases wildfire potential.

Vegetation Zones of the Surprise Valley-Home Camp Area, California and Nevada

The Surprise Valley-Home Camp Area is along the northwestern fringe of the Great Basin section of the Basin and Range Physiographic Province (Fenneman, 1931). Major plant associations within the soil survey area typify the general zonation of vegetation common to the Great Basin Region (Charlet, 1998). Valley floors, lake terraces, and areas adjacent to playas are dominated by salt-desert shrub plant communities. On volcanic plateaus, alluvial fans, and lower mountain slopes above the salt-desert shrub zone, sagebrush-grass plant communities are prevalent. Upper mountain sideslopes and ridge crests are dominated by montane shrublands and coniferous forest communities. Large quaking aspen stands are common in concave areas that receive additional moisture from springs and snowmelt. Meadows are also common in the survey area and are primarily associated with springs and seeps. Riparian zones are dominated by black cottonwood and several species of willow.

Saltbush Zone

The Saltbush Zone is characterized as open salt-desert shrublands possessing few perennial plants and episodically, many annual plants. In the survey area, this zone occurs at elevations from 4000 to 6200 feet and is restricted to valley floors where pluvial lakes deposited salts while evaporating. Precipitation is between 8 and

12 inches. The valley floors either have a high water table or receive additional moisture as run-in from higher landscape positions and are subject to shallow, low-velocity overflow during periods of runoff. Black greasewood, silver sagebrush, bud sagebrush, basin big sagebrush, fourwing saltbush, and basin wildrye are important shrub species in these areas. Basin wildrye production can exceed two thousand pounds per acre when these plant communities are in above average condition. These same communities in poor condition typically produce less than 500 pounds per acre of basin wildrye. There is good potential for increasing basin wildrye production on many poor and fair condition sites in the survey area. Basin wildrye provides standing dried forage during its fall and winter dormancy and can be of value for late winter calving areas.

Saline meadows also occur on the valley floors and are dominated by inland saltgrass, Nevada bluegrass, basin wildrye, creeping wildrye, wire grass, and species of *Carex*. Saline meadows typically have a seasonally high water table at depths of 20 to 60 inches and the soils are strongly salt and sodium affected in the upper soil profile. The surface layer of these soils will crust and bake upon drying, inhibiting water infiltration and seedling emergence.

Partially stabilized sand dunes are uncommon in the survey area and are generally associated with wind erosion of old lakebeds. Dunes are dominated by basin big sagebrush, spiny hopsage, fourwing saltbush and Indian ricegrass. Because of rapid soil infiltration and deep percolation of water, the loss of soil moisture due to evaporation is reduced and runoff is negligible. These conditions allow deep-rooted plants to grow vigorously under arid climatic conditions. The soils are extremely susceptible to wind-erosion and small 'blow-out' areas are common.

Salt-desert shrub and saline meadow communities are most valuable as winter range for livestock. These sites can produce high quality winter forage and are usually subject to only light snowfall. Most of the desirable forage species within salt-desert shrub communities are adversely affected by late winter (March-April) grazing, heavy use, or a combination of these two factors. Where winter grazing on native rangeland communities is practiced, it is important to have an emergency supply of feed readily available to carry livestock through periods of unusually severe conditions.

Properly regulated grazing management practices, such as periodic rest during critical growth in the late winter and early spring, rotational use, and the control of intensity and season of use can enhance the long-term productivity of salt-desert shrub plant communities. Fences, herding, supplement placement, water hauling,

and control of livestock access to watering facilities can be used to achieve better distribution of grazing use and to facilitate grazing management. Because of the inherent environmental harshness of the salt-desert shrub zone, manipulation of vegetation and revegetation projects are not usually advisable.

Although black greasewood is not a preferred forage plant for livestock, cattle and sheep will browse the succulent spring growth. On late fall and winter ranges, the fruit of black greasewood and shadscale offer nutritious and palatable feed. Soluble oxalates present in black greasewood may be harmful to livestock, especially sheep, if excess use is made of new growth in the spring.

Sagebrush Zone

The Sagebrush Zone within the survey area is represented on volcanic plateaus and tablelands, alluvial fans, and lower mountain slopes at elevations from 4,300 to 6,800 feet. Average annual precipitation is between 8 and 12 inches.

Low sagebrush, Wyoming big sagebrush, Lahontan sagebrush, and basin big sagebrush are the dominant woody sagebrush taxa of the Sagebrush Zone. Other common shrubs include antelope bitterbrush, spiny hopsage, and wild crabapple. Bluebunch wheatgrass, Thurber needlegrass, Webber ricegrass, Canby bluegrass, and Sandberg bluegrass are important grasses associated with these sagebrush communities. Livestock pressure on these sagebrush-grass plant communities has historically been severe. These plant communities are usually first to initiate growth or "greenup" with warming temperatures in the early spring and have traditionally been used for spring grazing by livestock. However, close grazing by livestock at this time, season after season, will eventually eliminate the perennial grass and forb understory.

Grazing management practices, such as periodic rest during critical growth in the spring, rotational use, and the control of intensity and season of use can enhance the long-term productivity of these sagebrush-grass communities. Fences, herding, water hauling, and control of livestock access to watering facilities can be used to achieve better distribution of grazing use and to facilitate grazing management of these areas. There are very few perennial water sources within the sagebrush-grass zone. Water developments and watering facilities, therefore, are a key element to grazing management and can be of significant value for wildlife. Where range condition has not deteriorated too far, and an adequate population of desirable perennial grasses and forbs are available to respond to a release from competition, brush management practices can greatly enhance the forage available for livestock and wildlife. There is a limited

selection of plant materials available for rangeland seeding in the 8 to 12 inch precipitation zone. However, seeding of adapted forage species tolerant to early spring grazing can play a key role in the management of grazing on adjacent native sagebrush-grass and salt-desert shrub plant communities. The occurrence of years having below normal precipitation is relatively frequent throughout the sagebrush-grass zone and the risk of seeding failure, because of the unpredictability of climate, should be acknowledged.

Brush management practices can be very effective in increasing native forage production on sites in the mid-elevation sagebrush-grass zones. Brush management practices that are implemented primarily to benefit livestock can also be important to wildlife. Opening up large, homogeneous stands of sagebrush is often advantageous to wildlife, such as mule deer, Rocky Mountain elk and pronghorn. Rangeland seeding may be required following removal of woody vegetation where desirable understory plants are sparse or absent in the present plant community. Forage for wildlife, such as pronghorn, mule deer, and sage grouse can be enhanced if adapted forbs are included in the seeding.

Riparian areas or meadows are interspersed throughout the survey area but many are found in the sagebrush-grass community. Riparian vegetation occurs along the main stream channels feeding these floodplains. On higher landscapes, stringer meadows occur along spring-fed stream channels where moisture is available to plants through most of the growing season. Meadow vegetation also occurs on the periphery of seeps and springs. These riparian zones are disproportionately important for the relatively small amount of total area they represent in the survey area. The importance of riparian zones is related primarily to the presence of free water, the greater productivity and length of growing period of the riparian vegetation influenced by this extra moisture, and the diversity of plant species as well as the structural diversity of the riparian vegetation. Riparian zones along stream channels are typically long and winding in nature, which maximizes the edge effect between them and the adjacent upland areas.

Abusive livestock grazing of riparian vegetation can reduce water quality, eliminate streamside shrubs, cause soil compaction, accelerate erosion, and breakdown stream banks. Proper management of rangeland in the survey area requires that special attention be given to the welfare of riparian zones. Fortunately, riparian communities are often resilient and respond to improved livestock management methods more rapidly than upland plant communities. Grazing treatments for riparian areas vary with the stability of the riparian

community and the condition or "health" of the adjacent upland plant communities.

Pygmy Conifer Zone

The Pygmy Conifer Zone include the western juniper and the Utah juniper woodlands. Elevations range from 4,700 to 6,400 feet and precipitation ranges from 10 to 16 inches. Dominant understory shrubs include mountain big sagebrush, antelope bitterbrush, Utah serviceberry and roundleaf snowberry. Prevalent understory grasses include bluebunch wheatgrass, Thurber needlegrass, Canby bluegrass, Sandberg bluegrass, and big squirreltail.

Settlement in the survey area has reduced the incidence and size of natural fires through fire suppression and the disruption of fine fuel continuity by livestock grazing. With changes in the extent and frequency of natural fire, significant changes in the character of the juniper woodlands and associated rangeland have occurred. Western and Utah juniper are highly competitive invasive species and original woodlands have become denser and adjacent sagebrush-grass communities have been invaded by these species.

In the pristine environment, stands of juniper woodland were restricted to rocky ridges, rock outcrops and fractured bedrock that were "fire safe". Young juniper trees have thin bark and are very susceptible to ground fires until their crowns grow well above the sagebrush-grass vegetation. Fire usually eliminates or greatly reduces the number of tree seedlings on soils that produce continuous stands of fine fuels. Production of fine fuels is limited on soils that are droughty, shallow and/or stony. A sparse stand of fine fuels reduces the frequency and extent of wildfires and provides "safe" sites for stands of juniper to develop.

Traditional products of the juniper woodlands include firewood, charcoal, fence posts, corrals and poles. As energy demands and costs increase, firewood harvesting becomes more important as a woodland product. Other woodland uses are livestock grazing, wildlife food and cover, recreation and watershed protection.

Managing juniper woodlands for sustained yield is a relatively new concept. Juniper wood is not suitable for lumber and commercial tree production management techniques have not generally been applied to these woodlands in the past. Because of the recent (and growing) demand for firewood, however, management of these woodlands should include evaluations of the economic value of firewood production and harvest as well as livestock grazing. Western juniper woodlands can produce from 8 to 11 cords of firewood per acre.

Thinning and improvement cuttings are recommended for sustained yields. Harvest of selected trees for fence posts and firewood can provide an economic return and improve stand quality and yield. Thinning and selective tree harvest maintains an open overstory canopy that can optimize understory forage production while allowing more vigorous growth of the remaining trees.

Tree production should be encouraged on sites known to be productive or on soils that originally supported juniper woodlands. Invasion of juniper into sagebrush-grass rangeland should be controlled to prevent loss of forage production and potential degradation of the rangeland resource. When developing a woodland management plan, it is important to evaluate the soil and site potentials. Consideration should be given to all woodland values, site opportunities and economic factors.

Understory vegetation consists of grasses, forbs, shrubs, and other plants. Some woodland, if well managed, can produce enough understory vegetation to support grazing of livestock or wildlife, or both, without damage to the trees or understory.

The quantity and quality of understory vegetation vary with the kind of soil, the age and kind of trees in the canopy, the density of the canopy, the amount of litter accumulation and level of tree competition for soil moisture and nutrients.

Areas where there is presently a heterogeneous mix of vegetative types including grassland, low shrub, tall shrub and tree/shrub communities usually provide an optimum diversity of habitat and wildlife. These types of vegetative complexes are common in the mid- and upper elevation sagebrush-grass zones within the survey area. In these areas, moderate browsing by cattle on antelope bitterbrush in the fall can encourage a shrub form that leaves more of the bitterbrush plant available for use by mule deer and antelope as well as enhancing bitterbrush vigor and production.

Montane Zone

The Montane Zone includes the sagebrush-grass plant communities, quaking aspen stands, curlleaf mountainmahogany stands, wet meadows, and high elevation conifer forests at elevations from approximately 6,400 to 9,500 feet. Average annual precipitation ranges from 16 to 50 inches at these elevations within the survey area. Mountain big sagebrush and low sagebrush dominate the canopy of the sagebrush-grass plant communities. Understory grasses in the mountain big sagebrush communities include mountain brome, Letterman's needlegrass, bottlebrush squirreltail, basin wildrye, and bluebunch wheatgrass. Mountain snowberry, wax currant, and Utah

serviceberry are common shrub associates with mountain big sagebrush. Perennial forbs are an important component of the sagebrush-grass communities. Common perennial forbs include woolly mule's ears, Brown's peony, tailcup lupine, phlox, Indian paintbrush and tapertip hawksbeard.

Low sagebrush communities are characterized as having a low diversity of shrubs and a high diversity of perennial forbs. Common forbs include spreading phlox, spiny phlox, ballhead sandwort, pussytoes, desert parsley, and species of buckwheat. Understory grasses include Idaho fescue, Sandberg bluegrass, Thurber needlegrass and prairie junegrass.

At lower elevations within the Montane Zone are forest communities of white fir, ponderosa pine, western white pine, Jeffrey pine and Washoe pine. At higher elevations are subalpine forest communities of whitebark pine and lodgepole pine. Currant, roundleaf snowberry, and snowbrush ceanothus are common understory shrubs. Understory grasses and grass-like plants include Ross' sedge, Wheeler's bluegrass, western needlegrass, mountain brome and bottlebrush squirreltail. Perennial forbs are common in the understory and include tailcup lupine, woolly mule's ears, phlox, sweet cicely and slender penstemmon.

Permanent and seasonally wet meadows associated with perennial streams, springs and seeps are distributed throughout the Montane Zone. Wet meadows have a simple structure consisting of a layer of herbaceous plants. Shrub or tree layers are usually very sparse but are an important feature of the meadow edge. Wet meadows occur with a rich diversity of plant species. Important grass and grass-like plants include Nebraska sedge, beaked sedge, tufted hairgrass, spikerush, Baltic rush and pull-up muhly. Important forbs include primrose monkeyflower, American bistort, cow's clover, alpine shootingstar and western aster. Large quaking aspen stands occur on concave mountain sideslopes, meadow edges, stream terraces of perennial streams and near seeps and springs. Curlleaf mountainmahogany stands are found at the highest elevations on mountain summits and upper sideslopes associated with rock outcrops.

These high elevation sites remain cold and wet through spring and into early summer and are used as summer range for livestock grazing. Livestock grazing should be delayed on these sites until the surface soils have dried sufficiently to withstand grazing pressure. Snow often blankets these high elevation sites by late fall, further restricting the period of livestock use in these areas. Steeply sloping terrain is common over these high elevation sites. Livestock tend to overuse less sloping areas if grazing is not managed to effect an even distribution of grazing use. Fences, watering facilities

and herding can be employed to force livestock to use areas that might otherwise be left ungrazed. Salt and mineral block placements should be away from water. Mule deer and Rocky Mountain elk use these high elevation plant communities for summer range. A patchwork of dense stands of mountain brush species on north-facing slopes are important deer fawning areas. Management practices should encourage the maintenance of these dense brush stands for wildlife cover.

Seeps and springs at these elevations are common and livestock water is usually readily available. However, to prevent concentration of livestock and achieve good livestock distribution, additional water developments may be necessary. Spring developments, pipelines and storage tanks provide dependable means of supplying water. Development of seeps and springs for livestock water can be done to benefit wildlife also. Fencing the meadow surrounding a seep or spring to exclude livestock and piping the water to areas outside the enclosure into troughs or other storage facilities protects the meadow vegetation for wildlife. It is important that enough water is retained in the fenced seep or spring area to retain the meadow vegetation. Small meadows can also be developed by piping overflow water from livestock troughs into fenced areas to create and maintain meadow vegetation.

There are many areas within the mid-elevation to upper elevation wet meadow communities that have been heavily invaded by false hellebore. Although false hellebore is a native perennial forb of late seral meadow communities it tends to increase under heavy grazing pressure and will suppress more palatable herbaceous species. A glyphosate herbicide treatment, prior to flowering, will effectively control false hellebore over time with little disturbance to the residual herbaceous community. Mowing treatments will not reduce false hellebore stem densities but will allow resurgence of the remnant forb-grass community (Cosgriff, Anderson, and Monson, 2004).

Prescription burning of dense sagebrush stands can be an economical approach to brush management within the upper elevation sagebrush-grass zone. Brush management practices should be designed so that an adequate shrub canopy remains near meadows for wildlife cover. Range seeding of the upper elevation plant communities is usually not necessary. Most areas have sufficient remnant populations of desirable forbs and grasses to respond to grazing management and/or release from shrub competition with brush management. Where range seeding is needed, the high annual precipitation over this zone allows for a wide selection of adapted plant materials to choose from in meeting the seeding purpose.

Wildlife Considerations

All types of plant communities support one kind of wildlife species or another. When assessing the impact of vegetation manipulation on wildlife, it is important to consider the role "edges" play in wildlife habitat. An "edge" or ecotone is a transition between plant communities or where vegetative structure within plant communities comes together. These edges are commonly richer in wildlife than either of the adjoining communities. The structure and dominance of plants remaining after the vegetation has been manipulated, differs with the treatment method used.

There are many treatment methods used to create desired habitat. Fire or prescribed burning is one method to change or alter habitats. If the fire is intense all vegetation, including the skeletons or woody portions of shrubs, is removed. This eliminates the structure of woody vegetation from the area. Mule deer, antelope, elk, and many non-game species often utilize the lush vegetation that grows in the recently burned areas. Low intensity fires can also be utilized to rejuvenate grasses and forbs without removing the woody component.

Chemical application is an alternative to burning when creating habitat. Using herbicides to treat areas of brush creates slower change in the vegetative structure. Herbicides leave the dead skeletons of shrubs standing longer than burning and the shrub structure is retained. Antelope usually avoid areas having this dead shrub structure for several years after treatment. A side effect of herbicide control is the inadvertent killing of broad-leaved forbs in the shrub understory. Forbs are a staple part of the diet of sage grouse and antelope.

Mechanical means of brush removal is another option of brush removal in the arid west. Chaining, and to a lesser degree, brush beating, change the vegetative structure from tree/shrub or shrub to grassland. The residue left on the ground creates microhabitat for small mammals and birds.

Manipulation of sagebrush within sage-grouse occupied ranges must be undertaken with careful planning. Optimum brood rearing habitat for sage grouse is characterized by a 10 to 25 percent canopy cover of sagebrush that is 16 to 32 inches high with herbaceous understory of 15 percent grass canopy and 10 percent forb canopy cover (Sage-Grouse Conservation Team, 2004). Some treatment of sagebrush, such as reducing cover from 40 to 20 percent may not seriously degrade sage grouse nesting habitat and can often provide higher quality sage grouse forage. Timing of brush manipulation is also an important consideration in sage-grouse habitat.

Many of the wildlife species in the survey area are dependent upon riparian plant communities for a significant portion of the year. Riparian communities also support wildlife not common to desert ecosystems. Riparian communities create islands of habitat in desert environments for migrating birds. Species such as nuthatches and warblers, which nest in forest ecosystems, can be found in riparian zones during the spring and fall. These riparian communities are not only areas of concentration for wildlife, but also recreational users, livestock and feral horses.

Reducing big sagebrush cover can benefit mule deer, Rocky Mountain elk and pronghorn where the habitat needs of these animals are properly identified and planned for in the manipulation of vegetation. Extensive areas dominated by big sagebrush are marginal pronghorn habitat and these areas can be treated to decrease the density and height of sagebrush. Removal of big sagebrush to enhance the diversity of understory grasses and forbs or to increase production of green forage on transitional range where shrub cover is excessive can benefit mule deer and elk. The sage grouse is a habitat-specific bird, relying primarily on sagebrush to meet its life requirements. Plans for manipulation of sagebrush stands on ranges occupied by sage grouse should provide for the maintenance of suitable sage grouse habitat, especially nesting habitat near strutting grounds or "leks".

Wildlife Considerations in the Saltbush Zone

Salt-desert shrub communities can provide excellent nesting cover and food for several species of birds and small mammals. These communities are home to a wide variety of non-game species including chisel-toothed kangaroo rats, Great Basin pocket mice, various ground squirrels and Townsend's pocket gophers. Northern junco, Townsend's solitaire and mountain bluebird are known to use these habitats.

Playas associated with the salt-desert shrub communities, can support a large number of waterfowl and shorebirds, including Canada goose, mallard, American avocet, killdeer and marbled godwit. These species feed on brine and tadpole shrimp, and various flies and mosquitoes associated with the playas.

Wildlife Considerations in the Sagebrush Zone

Big sagebrush-grass communities are extremely important for wintering sage grouse and mule deer. Both these species and pronghorn use sagebrush-grass communities in the fall. Sage grouse use the taller sagebrush species for nesting and hiding cover. Sage grouse may use these areas during severe winter periods to feed on sagebrush that has not been snow-covered. Pygmy rabbits also use big sagebrush

communities that grow on deeper soils, which are more conducive to burrowing. Heavy snow at higher elevations will move chukar partridge onto these communities where feed is available. Rocky Mountain elk may also use these areas in years of large snow accumulations at higher elevations. Spring grazing by livestock on deer winter range areas should be managed so that turn out of livestock is delayed until after spring green-up and most of the deer have migrated from the area.

Wet meadows adjacent to sagebrush stands are important sage-grouse brood-rearing areas. The diet of sage-grouse chicks during the first weeks after leaving the nest is primarily insects (ants and beetles) and succulent forbs that are common to wet meadows. Cattle grazing of meadow areas can improve the quality of sage grouse feed if a period of re-growth for key forb species is provided. Grazing increases the succulence of forbs by arresting the maturation process of plant tissues. The succulent or young leaf tissue is higher in protein and lower in fiber than mature tissue. Sage grouse have been shown to seek sources of succulent forbs by selecting for meadows grazed by cattle. Sage grouse chicks benefit from the horizontal and vertical cover provided by properly grazed meadows that appear "patchy" in terms of stubble heights remaining after livestock use. Improper livestock grazing management of riparian vegetation can cause gully erosion that results in lowered water tables, drying out of meadows, and loss of valuable wildlife and livestock forage. Grazing management strategies should be applied that are sensitive to the development and maintenance of healthy riparian areas.

Wildlife Considerations in the Pygmy Conifer Zone

Juniper woodlands provide thermal and hiding cover and forage for mule deer, and also provide some hiding cover for pronghorn. Rocky Mountain elk are found in the northwest part of the survey area and they rely heavily on the juniper plant communities for most of their life cycles. The juniper areas provide them with the feed and cover that they need to survive year round. Juniper berries are an important food source for wintering birds, such as Townsend's solitaire, mountain bluebird, American robin and cedar waxwing. Several species of raptors roost and hunt from juniper perches.

Brush and tree treatments such as chainings or prescribed fire in these juniper areas can greatly benefit wildlife. By removing some of the encroached juniper, understory grasses and forbs will once again receive the sunlight and nutrients they need to grow and flourish. In areas with complete canopy cover, range seeding may be necessary to have successful results. These areas

make excellent habitat for Rocky Mountain elk, small mammals and birds.

Wildlife Considerations in the Montane Zone

The high elevation coniferous forest and mountain big sagebrush plant communities supply mule deer and Rocky Mountain elk with exceptional summer range. Mule deer and Rocky Mountain elk will use these high elevation sites from early in the spring when the snow melts to early winter when the rut begins. These areas have more than sufficient feed and cover for deer. Springs and meadows in this region are common and tend to be the areas that all wildlife and livestock life revolves around. Care should be taken to protect these water sources and spring developments that can be beneficial to both wildlife and livestock.

These high elevation plant communities also serve as habitat for several bat species and as foraging and nesting habitat for many birds such as red-breasted nuthatch, golden-crowned kinglet, yellow-rumped warbler, mountain chickadee, western tanager, mountain bluebird, Clark's nutcrackers and Stellar jays.

Quaking aspen stands provide forage and thermal and hiding cover for mule deer. These stands are important to elk as foraging and calving grounds. Quaking aspen stands also support high densities of breeding birds including some species that prefer or are found primarily in aspen stands. Bird species include northern goshawk, Cooper's hawk, orange-crowned warblers, warbling vireo, tree swallow, mountain bluebirds and woodpeckers.

Wet meadow communities, including springs and seeps, provide an important source of water for most wildlife. Meadows also provide important foraging habitat for mule deer, Rocky Mountain elk and pronghorn. These communities may also serve as birthing grounds for large game and nesting habitat for greater sandhill crane, Wilson's phalarope, willet, yellow rail and many species of ducks. Small mammals may use wet meadows that have dried, however, the meadows are generally too wet to provide suitable habitat.

There tends to be much diversity at these high elevations since there is an increased amount of precipitation. Seedings in these areas are not usually needed as there is usually a sufficient seed source available after any type of disturbance.

Rehabilitation of Disturbed Habitats

Rangeland seeding may be required following the removal of woody vegetation in areas where desirable understory plants are scarce or are not included in the

present plant community. Revegetation also may be necessary for critical area treatment following a wildfire or other major disturbance. Maximum grazing capacity can be achieved in seeded stands where the objective of management is uniform grazing of the stand and prevention of the concentration of livestock. Additional water developments and fencing may be required to meet management objectives. Forage for wildlife, such as pronghorn, mule deer, and sage grouse can be enhanced if adapted forbs are included in the seeding.

The success of range seeding depends on the amount of moisture available during the growing season. Even in areas where adapted species are planted and improved seeding and land treatment techniques are applied, the success of range seeding is strongly influenced by rainfall. The distribution and amount of precipitation in the survey area fluctuate widely from one year to the next. Years of below normal precipitation are relatively frequent, and the risk of seeding failure caused by the unpredictability of climate should be acknowledged in addition to critical soil properties that affect seeding success.

Where critical area treatment is necessary, providing a plant cover that helps to prevent accelerated erosion may be advantageous on soils that are poorly suited to range seeding. The plants that are suited to the soils in the area to be treated should be selected for seeding.

Other information regarding rangeland management, plant communities, wildlife, and rangeland seedings discussed in this survey can be obtained by contacting the local Natural Resource Conservation Service, www.nv.nrcs.usda.gov, or the local Cooperative Extension office, www.unce.unr.edu.

Forest Productivity and Management

The tables in this publication can help forest owners or managers plan the use of soils for wood production. They show the potential productivity of the soils for wood production and rate the soils according to limitations that affect forest management.

In table 7, Forestland Productivity, the potential productivity of merchantable or common trees on a soil is expressed as a site index and as a volume number. The site index's the average height, in feet, that dominant and co-dominant trees of a given species attain in a specified number of years. For pinyon and juniper woodland, site index is based on tree basal area per acre. The site index applies to fully stocked, even-aged, unmanaged stands. Commonly grown trees are those that forest managers generally favor in intermediate or improvement cuttings. They are selected

on the basis of growth rate, quality, value, and marketability. More detailed information regarding site index is available in the "National Forestry Manual," (USDA-NRCS, 1998) which is available in local offices of the Natural Resources Conservation Service or on the Internet.

The volume of wood fiber, a number, is the yield likely to be produced by the most important tree species. This number, expressed as cubic feet per acre per year and calculated at the age of culmination of the mean annual increment (CMAI), indicates the amount of fiber produced in a fully stocked, even-aged, unmanaged stand. Trees to manage are those that are preferred for planting, seeding, or natural regeneration and those that remain in the stand after thinning or partial harvest. In Mono and Alpine Counties, California, pinyon and juniper are common native trees, typically growing on steep mountains and hills. The pinyon and juniper areas are not harvested for commercial wood products, although firewood and fence posts are locally important uses of pinyon and juniper. Higher elevation tree species such as, lodgepole pine, Jeffrey pine, white fir, red fir, western white pine, and western juniper are the most common native trees. These species can be harvested for commercial wood products.

Forest Management

In tables 8 through 12, interpretive ratings are given for various aspects of forest management. The ratings are both verbal and numerical.

Some rating class terms indicate the degree to which the soils are suited to a specified forest management practice. *Well suited* indicates that the soil has features that are favorable for the specified practice and has no limitations. Good performance can be expected, and little or no maintenance is needed. *Moderately suited* indicates that the soil has features that are moderately favorable for the specified practice. One or more soil properties are less than desirable, and fair performance can be expected. Some maintenance is needed. *Poorly suited* indicates that the soil has one or more properties that are unfavorable for the specified practice. Overcoming the unfavorable properties requires special design, extra maintenance, and costly alteration. *Unsuited* indicates that the expected performance of the soil is unacceptable for the specified practice or that extreme measures are needed to overcome the undesirable soil properties.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate

gradations between the point at which a soil feature has the greatest negative impact on the specified forest management practice (1.00) and the point at which the soil feature is not a limitation (0.00).

Rating class terms for fire damage and seedling mortality are expressed as *low*, *moderate*, and *high*. Where these terms are used, the numerical ratings indicate gradations between the point at which the potential for fire damage or seedling mortality is highest (1.00) and the point at which the potential is lowest (0.00).

The paragraphs that follow indicate the soil properties considered in rating the soils for forest management practices. More detailed information about the criteria used in the ratings is available in the "National Forestry Manual," which is available in local offices of the Natural Resources Conservation Service or on the Internet (<http://nsscnt.nssc.nrcs.usda.gov/nfm/>).

For *limitations affecting construction of haul roads and log landings*, the ratings are based on slope, flooding, permafrost, plasticity index, the hazard of soil slippage, content of sand, the Unified classification, rock fragments on or below the surface, depth to a restrictive layer that is indurated, depth to a water table, and ponding. The limitations are described as slight, moderate, or severe. A rating of *slight* indicates that no significant limitations affect construction activities, *moderate* indicates that one or more limitations can cause some difficulty in construction, and *severe* indicates that one or more limitations can make construction very difficult or very costly.

The ratings of *suitability for log landings* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The soils are described as well suited, moderately suited, or poorly suited to use as log landings.

Ratings in the column *soil rutting hazard* are based on depth to a water table, rock fragments on or below the surface, the Unified classification, depth to a restrictive layer, and slope. Ruts form as a result of the operation of forest equipment. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that the soil is subject to little or no rutting, *moderate* indicates that rutting is likely, and *severe* indicates that ruts form readily.

Ratings in the column *hazard of off-road or off-trail erosion* are based on slope and on soil erodibility factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The hazard is described as slight, moderate, severe, or very severe. A rating of

slight indicates that erosion is unlikely under ordinary climatic conditions; *moderate* indicates that some erosion is likely and that erosion-control measures may be needed; *severe* indicates that erosion is very likely and that erosion-control measures, including revegetation of bare areas, are advised; and *very severe* indicates that significant erosion is expected, loss of soil productivity and off-site damage are likely, and erosion-control measures are costly and generally impractical.

Ratings in the column *hazard of erosion on roads and trails* are based on the soil erodibility factor K, slope, and content of rock fragments. The ratings apply to unsurfaced roads and trails. The hazard is described as slight, moderate, or severe. A rating of *slight* indicates that little or no erosion is likely; *moderate* indicates that some erosion is likely, that the roads or trails may require occasional maintenance; and that simple erosion-control measures are needed; and *severe* indicates that significant erosion is expected, that the roads or trails require frequent maintenance, and that costly erosion-control measures are needed.

Ratings in the column *suitability for roads (natural surface)* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, ponding, flooding, and the hazard of soil slippage. The ratings indicate the suitability for using the natural surface of the soil for roads. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the columns *suitability for hand planting* and *suitability for mechanical planting* are based on slope, depth to a restrictive layer, content of sand, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, moderately suited, poorly suited, or unsuited to these methods of planting. It is assumed that necessary site preparation is completed before seedlings are planted.

Ratings in the column *suitability for use of harvesting equipment* are based on slope, rock fragments on the surface, plasticity index, content of sand, the Unified classification, depth to a water table, and ponding. The soils are described as well suited, moderately suited, or poorly suited to this use.

Ratings in the column *suitability for mechanical site preparation (surface)* are based on slope, depth to a restrictive layer, plasticity index, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 1 foot is considered in the ratings.

Ratings in the column *suitability for mechanical site preparation (deep)* are based on slope, depth to a restrictive layer, rock fragments on or below the surface, depth to a water table, and ponding. The soils are described as well suited, poorly suited, or unsuited to this management activity. The part of the soil from the surface to a depth of about 3 feet is considered in the ratings.

Ratings in the column *potential for damage to soil by fire* are based on texture of the surface layer, content of rock fragments and organic matter in the surface layer, thickness of the surface layer, and slope. The soils are described as having a low, moderate, or high potential for this kind of damage. The ratings indicate an evaluation of the potential impact of prescribed fires or wildfires that are intense enough to remove the duff layer and consume organic matter in the surface layer.

Ratings in the column *potential for seedling mortality* are based on flooding, ponding, depth to a water table, content of lime, reaction, salinity, available water capacity, soil moisture regime, soil temperature regime, aspect, and slope. The soils are described as having a low, moderate, or high potential for seedling mortality.

Engineering

This section provides information for planning land uses related to urban development and to water management. Soils are rated for various uses, and the most limiting features are identified. Ratings are given for building site development and construction materials. The ratings are based on observed performance of the soils and on the data in the tables described under the heading "Soil Properties." Tables that provide interpretations for building site development, sanitary facilities, construction materials, and water management are not included in this report. They are available online in the report functions of the Web Soil Survey, (<http://websoilsurvey.nrcs.usda.gov>) and the Soil Data Mart, (<http://soildatamart.nrcs.usda.gov>).

Information in this section is intended for land use planning, for evaluating land use alternatives, and for planning site investigations prior to design and construction. The information, however, has limitations. For example, estimates and other data generally apply only to that part of the soil within a depth of 5 to 7 feet. Because of the map scale, small areas of different soils may be included within the mapped areas of a specific soil.

The information is not site specific and does not eliminate the need for onsite investigation of the soils or for testing and analysis by personnel experienced in the design and construction of engineering works.

Government ordinances and regulations that restrict certain land uses or impose specific design criteria were not considered in preparing the information in this section. Local ordinances and regulations should be considered in planning, in site selection, and in design.

Soil properties, site features, and observed performance were considered in determining the ratings in this section. During the fieldwork for this soil survey, determinations were made about grain-size distribution, liquid limit, plasticity index, soil reaction, depth to bedrock, hardness of bedrock within 5 or 6 feet of the surface, soil wetness, depth to a seasonal high water table, slope, likelihood of flooding, natural soil structure aggregation, and soil density. Data were collected about kinds of clay minerals,

mineralogy of the sand and silt fractions, and the kind of adsorbed cations. Estimates were made for erodibility, permeability, corrosivity, shrink-swell potential, available water capacity, and other behavioral characteristics affecting engineering uses.

This information can be used to evaluate the potential of areas for residential, commercial, industrial, and recreational uses; make preliminary estimates of construction conditions; evaluate alternative routes for roads, streets, highways, pipelines, and underground cables; evaluate alternative sites for septic tank absorption fields; plan detailed onsite investigations of soils and geology; locate potential sources of gravel, sand, earthfill, and topsoil; and predict performance of proposed small structures and pavements by comparing the performance of existing similar structures on the same or similar soils.

The information in the tables, along with the soil maps, the soil descriptions, and other data provided in this survey, can be used to make additional interpretations.

Some of the terms used in this soil survey have a special meaning in soil science and are defined in the "Glossary."

Building Site Development

Soil properties influence the development of building sites, including the selection of the site, the design of the structure, construction, performance after construction, and maintenance. The tables (tables available online) show the degree and kind of soil limitations that affect dwellings with and without basements, small commercial buildings, local roads and streets, shallow excavations, and lawns and landscaping.

The ratings in the tables are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect building site development. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be

expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Dwellings are single-family houses of three stories or less. For dwellings without basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. For dwellings with basements, the foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of about 7 feet. The ratings for dwellings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility. Compressibility is inferred from the Unified classification. The properties that affect the ease and amount of excavation include depth to a water table, ponding, flooding, slope, depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, and the amount and size of rock fragments.

Small commercial buildings are structures that are less than three stories high and do not have basements. The foundation is assumed to consist of spread footings of reinforced concrete built on undisturbed soil at a depth of 2 feet or at the depth of maximum frost penetration, whichever is deeper. The ratings are based on the soil properties that affect the capacity of the soil to support a load without movement and on the properties that affect excavation and construction costs. The properties that affect the load-supporting capacity include depth to a water table, ponding, flooding, subsidence, linear extensibility (shrink-swell potential), and compressibility (which is inferred from the Unified classification). The properties that affect the ease and amount of excavation include flooding, depth to a water table, ponding, slope, depth to bedrock or a cemented pan, hardness of bedrock

or a cemented pan, and the amount and size of rock fragments.

Local roads and streets have an all-weather surface and carry automobile and light truck traffic all year. They have a subgrade of cut or fill soil material; a base of gravel, crushed rock, or soil material stabilized by lime or cement; and a surface of flexible material (asphalt), rigid material (concrete), or gravel with a binder. The ratings are based on the soil properties that affect the ease of excavation and grading and the traffic-supporting capacity. The properties that affect the ease of excavation and grading are depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, depth to a water table, ponding, flooding, the amount of large stones, and slope. The properties that affect the traffic-supporting capacity are soil strength (as inferred from the AASHTO group index number), subsidence, linear extensibility (shrink-swell potential), the potential for frost action, depth to a water table, and ponding.

Shallow excavations are trenches or holes dug to a maximum depth of 5 or 6 feet for graves, utility lines, open ditches, or other purposes. The ratings are based on the soil properties that influence the ease of digging and the resistance to sloughing. Depth to bedrock or a cemented pan, hardness of bedrock or a cemented pan, the amount of large stones, and dense layers influence the ease of digging, filling, and compacting. Depth to the seasonal high water table, flooding, and ponding may restrict the period when excavations can be made. Slope influences the ease of using machinery. Soil texture, depth to the water table, and linear extensibility (shrink-swell potential) influence the resistance to sloughing.

Lawns and landscaping require soils on which turf and ornamental trees and shrubs can be established and maintained. Irrigation is not considered in the ratings. The ratings are based on the soil properties that affect plant growth and trafficability after vegetation is established. The properties that affect plant growth are reaction; depth to a water table; ponding; depth to bedrock or a cemented pan; the available water capacity in the upper 40 inches; the content of salts, sodium, or calcium carbonate; and sulfidic materials. The properties that affect trafficability are flooding, depth to a water table, ponding, slope, stoniness, and the amount of sand, clay, or organic matter in the surface layer.

Sanitary Facilities

The tables (tables available online) shows the degree and kind of soil limitations that affect septic tank absorption fields, sewage lagoons, sanitary landfills, and daily cover for landfill. The ratings are both verbal and numerical. Rating class terms indicate the extent to which

the soils are limited by all of the soil features that affect these uses. *Not limited* indicates that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Somewhat limited* indicates that the soil has features that are moderately favorable for the specified use. The limitations can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. *Very limited* indicates that the soil has one or more features that are unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Septic tank absorption fields are areas in which effluent from a septic tank is distributed into the soil through subsurface tiles or perforated pipe. Only that part of the soil between depths of 24 and 60 inches is evaluated. The ratings are based on the soil properties that affect absorption of the effluent, construction and maintenance of the system, and public health. Permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, and flooding affect absorption of the effluent. Stones and boulders, ice, and bedrock or a cemented pan interfere with installation. Subsidence interferes with installation and maintenance. Excessive slope may cause lateral seepage and surfacing of the effluent in downslope areas.

Some soils are underlain by loose sand and gravel or fractured bedrock at a depth of less than 4 feet below the distribution lines. In these soils the absorption field may not adequately filter the effluent, particularly when the system is new. As a result, the ground water may become contaminated.

Sewage lagoons are shallow ponds constructed to hold sewage while aerobic bacteria decompose the solid and liquid wastes. Lagoons should have a nearly level floor surrounded by cut slopes or embankments of compacted soil. Nearly impervious soil material for the lagoon floor and sides is required to minimize seepage and contamination of ground water. Considered in the ratings are slope, permeability, depth to a water table, ponding, depth to bedrock or a cemented pan, flooding, large stones, and content of organic matter.

Soil permeability is a critical property affecting the suitability for sewage lagoons. Most porous soils eventually become sealed when they are used as sites for sewage lagoons. Until sealing occurs, however, the

hazard of pollution is severe. Soils that have a permeability rate of more than 2 inches per hour are too porous for the proper functioning of sewage lagoons. In these soils, seepage of the effluent can result in contamination of the ground water. Ground-water contamination is also a hazard if fractured bedrock is within a depth of 40 inches, if the water table is high enough to raise the level of sewage in the lagoon, or if floodwater overtops the lagoon.

A high content of organic matter is detrimental to proper functioning of the lagoon because it inhibits aerobic activity. Slope, bedrock, and cemented pans can cause construction problems, and large stones can hinder compaction of the lagoon floor. If the lagoon is to be uniformly deep throughout, the slope must be gentle enough and the soil material must be thick enough over bedrock or a cemented pan to make land smoothing practical.

A trench sanitary landfill is an area where solid waste is placed in successive layers in an excavated trench. The waste is spread, compacted, and covered daily with a thin layer of soil excavated at the site. When the trench is full, a final cover of soil material at least 2 feet thick is placed over the landfill. The ratings in the table are based on the soil properties that affect the risk of pollution, the ease of excavation, trafficability, and revegetation. These properties include permeability, depth to bedrock or a cemented pan, depth to a water table, ponding, slope, flooding, texture, stones and boulders, highly organic layers, soil reaction, and content of salts and sodium. Unless otherwise stated, the ratings apply only to that part of the soil within a depth of about 6 feet. For deeper trenches, onsite investigation may be needed.

Hard, nonrippable bedrock, creviced bedrock, or highly permeable strata in or directly below the proposed trench bottom can affect the ease of excavation and the hazard of ground-water pollution. Slope affects construction of the trenches and the movement of surface water around the landfill. It also affects the construction and performance of roads in areas of the landfill.

Soil texture and consistence affect the ease with which the trench is dug and the ease with which the soil can be used as daily or final cover. They determine the workability of the soil when dry and when wet. Soils that are plastic and sticky when wet are difficult to excavate, grade, or compact and are difficult to place as a uniformly thick cover over a layer of refuse.

The soil material used as the final cover for a trench landfill should be suitable for plants. It should not have excess sodium or salts and should not be too acid. The surface layer generally has the best workability, the highest content of organic matter, and the best potential for plants. Material from the surface layer should be stockpiled for use as the final cover.

In an *area sanitary landfill*, solid waste is placed in successive layers on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of soil from a source away from the site. A final cover of soil material at least 2 feet thick is placed over the completed landfill. The ratings in the table are based on the soil properties that affect trafficability and the risk of pollution. These properties include flooding, permeability, depth to a water table, ponding, slope, and depth to bedrock or a cemented pan.

Flooding is a serious problem because it can result in pollution in areas downstream from the landfill. If permeability is too rapid or if fractured bedrock, a fractured cemented pan, or the water table is close to the surface, the leachate can contaminate the water supply. Slope is a consideration because of the extra grading required to maintain roads in the steeper areas of the landfill. Also, leachate may flow along the surface of the soils in the steeper areas and cause difficult seepage problems.

Daily cover for landfill is the soil material that is used to cover compacted solid waste in an area sanitary landfill. The soil material is obtained offsite, transported to the landfill, and spread over the waste. The ratings in the table also apply to the final cover for a landfill. They are based on the soil properties that affect workability, the ease of digging, and the ease of moving and spreading the material over the refuse daily during wet and dry periods. These properties include soil texture, depth to a water table, ponding, rock fragments, slope, depth to bedrock or a cemented pan, reaction, and content of salts, sodium, or lime.

Loamy or silty soils that are free of large stones and excess gravel are the best cover for a landfill. Clayey soils may be sticky and difficult to spread; sandy soils are subject to wind erosion.

Slope affects the ease of excavation and of moving the cover material. Also, it can influence runoff, erosion, and reclamation of the borrow area.

After soil material has been removed, the soil material remaining in the borrow area must be thick enough over bedrock, a cemented pan, or the water table to permit revegetation. The soil material used as the final cover for a landfill should be suitable for plants. It should not have excess sodium, salts, or lime and should not be too acid.

Construction Materials

The tables (tables available online) give information about the soils as potential sources of gravel, sand, topsoil, reclamation material, and roadfill. Normal compaction,

minor processing, and other standard construction practices are assumed.

Sand and *gravel* are natural aggregates suitable for commercial use with a minimum of processing. They are used in many kinds of construction. Specifications for each use vary widely. Only the likelihood of finding material in suitable quantity is evaluated. The suitability of the material for specific purposes is not evaluated, nor are factors that affect excavation of the material. The properties used to evaluate the soil as a source of sand or gravel are gradation of grain sizes (as indicated by the Unified classification of the soil), the thickness of suitable material, and the content of rock fragments. If the bottom layer of the soil contains sand or gravel, the soil is considered a likely source regardless of thickness. The assumption is that the sand or gravel layer below the depth of observation exceeds the minimum thickness.

The soils are rated *good*, *fair*, or *poor* as potential sources of sand and gravel. A rating of *good* or *fair* means that the source material is likely to be in or below the soil. The bottom layer and the thickest layer of the soils are assigned numerical ratings. These ratings indicate the likelihood that the layer is a source of sand or gravel. The number 0.00 indicates that the layer is a poor source. The number 1.00 indicates that the layer is a good source. A number between 0.00 and 1.00 indicates the degree to which the layer is a likely source.

The soils are rated *good*, *fair*, or *poor* as potential sources of topsoil, reclamation material, and roadfill. The features that limit the soils as sources of these materials are specified in the tables. The numerical ratings given after the specified features indicate the degree to which the features limit the soils as sources of topsoil, reclamation material, or roadfill. The lower the number, the greater the limitation.

Topsoil is used to cover an area so that vegetation can be established and maintained. The upper 40 inches of a soil is evaluated for use as topsoil. Also evaluated is the reclamation potential of the borrow area. The ratings are based on the soil properties that affect plant growth; the ease of excavating, loading, and spreading the material; and reclamation of the borrow area. Toxic substances, soil reaction, and the properties that are inferred from soil texture, such as available water capacity and fertility, affect plant growth. The ease of excavating, loading, and spreading is affected by rock fragments, slope, depth to a water table, soil texture, and thickness of suitable material. Reclamation of the borrow area is affected by slope, depth to a water table, rock fragments, depth to bedrock or a cemented pan, and toxic material.

The surface layer of most soils is generally preferred for topsoil because of its organic matter content. Organic

matter greatly increases the absorption and retention of moisture and nutrients for plant growth.

Reclamation material is used in areas that have been drastically disturbed by surface mining or similar activities. When these areas are reclaimed, layers of soil material or unconsolidated geological material, or both, are replaced in a vertical sequence. The reconstructed soil favors plant growth. The ratings in the table do not apply to quarries and other mined areas that require an offsite source of reconstruction material. The ratings are based on the soil properties that affect erosion and stability of the surface and the productive potential of the reconstructed soil. These properties include the content of sodium, salts, and calcium carbonate; reaction; available water capacity; erodibility; texture; content of rock fragments; and content of organic matter and other features that affect fertility.

Roadfill is soil material that is excavated in one place and used in road embankments in another place. In this table, the soils are rated as a source of roadfill for low embankments, generally less than 6 feet high and less exacting in design than higher embankments.

The ratings are for the whole soil, from the surface to a depth of about 5 feet. It is assumed that soil layers will be mixed when the soil material is excavated and spread.

The ratings are based on the amount of suitable material and on soil properties that affect the ease of excavation and the performance of the material after it is in place. The thickness of the suitable material is a major consideration. The ease of excavation is affected by large stones, depth to a water table, and slope. How well the soil performs in place after it has been compacted and drained is determined by its strength (as inferred from the AASHTO classification of the soil) and linear extensibility (shrink-swell potential).

Water Management

The tables (tables available online) provide information on the soil properties and site features that affect water management. The degree and kind of soil limitations are given for pond reservoir areas; embankments, dikes, and levees; aquifer-fed excavated ponds; and various irrigation systems. The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect these uses. *No limitations* indicate that the soil has features that are very favorable for the specified use. Good performance and very low maintenance can be expected. *Limitations* with ratings between 0 and 1 can be overcome or minimized by special planning, design, or installation. Fair performance and moderate maintenance can be expected. Limitations with a rating value of 1 indicate that the soil has one or more features that are

unfavorable for the specified use. The limitations generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Poor performance and high maintenance can be expected.

Numerical ratings in the tables indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

Pond reservoir areas hold water behind a dam or embankment. Soils best suited to this use have low seepage potential in the upper 60 inches. The seepage potential is determined by the permeability of the soil and the depth to fractured bedrock or other permeable material. Excessive slope can affect the storage capacity of the reservoir area.

Embankments, dikes, and levees are raised structures of soil material, generally less than 20 feet high, constructed to impound water or to protect land against overflow. Embankments that have zoned construction (core and shell) are not considered. In this table, the soils are rated as a source of material for embankment fill. The ratings apply to the soil material below the surface layer to a depth of about 5 feet. It is assumed that soil layers will be uniformly mixed and compacted during construction.

The ratings do not indicate the ability of the natural soil to support an embankment. Soil properties to a depth even greater than the height of the embankment can affect performance and safety of the embankment. Generally, deeper onsite investigation is needed to determine these properties.

Soil material in embankments must be resistant to seepage, piping, and erosion and have favorable compaction characteristics. Unfavorable features include less than 5 feet of suitable material and a high content of stones or boulders, organic matter, or salts or sodium. A high water table affects the amount of usable material. It also affects trafficability.

Aquifer-fed excavated ponds are pits or dugouts that extend to a ground-water aquifer or to a depth below a permanent water table. Excluded are ponds that are fed only by surface runoff and embankment ponds that impound water 3 feet or more above the original surface. Excavated ponds are affected by depth to a permanent water table, permeability of the aquifer, and quality of the water as inferred from the salinity of the soil. Depth to bedrock and the content of large stones affect the ease of excavation.

Sprinkler irrigation systems vary in shape, size, and design depending on the needs of the crop grown and the soil type. These systems can be used on a wider range of

soils than can border systems. Most sprinkler systems can be used on slopes of as much as 15 percent. Ponding, surface erodibility, and depth to a cemented pan or bedrock typically limit design and performance.

Drip (or trickle) irrigation systems are very efficient and are most economical for wide-spaced crops, such as trees and vines. Slope generally is not a limitation, and the movement of water through the soil can be controlled by the application rate. Soil texture, movement of water through the soil, surface coarse fragments, and available water capacity are less limiting with these systems than with other irrigation systems.

Furrow irrigation systems are some of the oldest irrigation methods. They require efficient management. A furrow is a small, shallow channel that is installed down the slope or across the slope of a field. The length of the

furrow should be determined by soil type and slope. Furrows extending downslope contribute to soil erosion. Soil texture, erodibility, and depth to a cemented pan or bedrock typically limit performance and affect maintenance.

Soil Properties

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

Soil properties are determined by field examination of the soils and by laboratory index testing of some benchmark soils. Established standard procedures are followed. During the survey, many shallow borings are made and examined to identify and classify the soils and to delineate them on the soil maps. Samples are taken from some typical profiles and tested in the laboratory to determine grain-size distribution, plasticity, and compaction characteristics.

Estimates of soil properties are based on field examinations, on laboratory tests of samples from the survey area, and on laboratory tests of samples of similar soils in nearby areas. Tests verify field observations, verify properties that cannot be estimated accurately by field observation, and help to characterize key soils.

The estimates of soil properties are shown in tables. They include engineering index properties, physical and chemical properties, and pertinent soil and water features.

Engineering Properties

Table 13 "Engineering Properties," gives the engineering classifications and the range of index properties for the layers of each soil in the survey area.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly." Textural terms are defined in the Glossary.

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2001) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2000).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

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

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

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3

inches in diameter based on an oven-dry weight. The sieves, numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field.

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

The estimates of particle-size distribution, liquid limit, and plasticity index are generally rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterberg limits extend a marginal amount (1 or 2 percentage points) across classification boundaries, the classification in the marginal zone is generally omitted in the table.

Physical and Chemical Properties

Physical Properties

Table 14, "Physical Soil Properties," shows estimates of some physical characteristics and features that affect soil behavior. These estimates are given for the layers of each soil in the survey area. The estimates are based on field observations and on test data for these and similar soils.

Depth to the upper and lower boundaries of each layer is indicated.

Particle size is the effective diameter of a soil particle as measured by sedimentation, sieving, or micrometric methods. Particle sizes are expressed as classes with specific effective diameter class limits. The broad classes are sand, silt, and clay, ranging from the larger to the smaller.

Sand as a soil separate consists of mineral soil particles that are 0.05 millimeter to 2 millimeters in diameter. In table 14, "Physical Soil Properties," the estimated sand content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Silt as a soil separate consists of mineral soil particles that are 0.002 to 0.05 millimeter in diameter. In table 14, "Physical Soil Properties," the estimated silt content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

Clay as a soil separate consists of mineral soil particles that are less than 0.002 millimeter in diameter. In table 14, "Physical Soil Properties," the estimated clay content of each soil layer is given as a percentage, by weight, of the soil material that is less than 2 millimeters in diameter.

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

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

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

Permeability (Ksat) refers to the ability of a soil to transmit water or air. The term "permeability," as used in soil surveys, indicates saturated hydraulic conductivity (Ksat). The estimates in the table indicate the rate of water movement, in inches per hour, when the soil is saturated. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Permeability is considered in the design of soil drainage systems and septic tank absorption fields.

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

Linear extensibility refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. It is an expression of the volume change between the water content of the clod at 1/3- or 1/10-bar tension (33kPa or 10kPa tension) and

oven dryness. The volume change is reported in the table as percent change for the whole soil. Volume change is influenced by the amount and type of clay minerals in the soil.

Linear extensibility is used to determine the shrink-swell potential of soils. The shrink-swell potential is low if the soil has a linear extensibility of less than 3 percent; moderate if 3 to 6 percent; high if 6 to 9 percent; and very high if more than 9 percent. If the linear extensibility is more than 3, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. Special design commonly is needed.

Organic matter is the plant and animal residue in the soil at various stages of decomposition. In table 24, 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 14, "Physical Soil Properties," 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 K_w indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Erosion factor K_f 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.

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 15, "Chemical Soil Properties," 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.

Calcium carbonate equivalent is the percent of carbonates, by weight, in the fraction of the soil less than 2 millimeters in size. The availability of plant nutrients is influenced by the amount of carbonates in the soil. Incorporating nitrogen fertilizer into calcareous soils helps to prevent nitrite accumulation and ammonium-N volatilization.

Gypsum is expressed as a percent, by weight, of hydrated calcium sulfates in the fraction of the soil less than 20 millimeters in size. Gypsum is partially soluble in water. Soils that have a high content of gypsum may collapse if the gypsum is removed by percolating water.

Salinity is a measure of soluble salts in the soil at saturation. It is expressed as the electrical conductivity of the saturation extract, in millimhos per centimeter at 25 degrees C. Estimates are based on field and laboratory measurements at representative sites of nonirrigated soils. The salinity of irrigated soils is affected by the quality of the irrigation water and by the

frequency of water application. Hence, the salinity of soils in individual fields can differ greatly from the value given in the table. Salinity affects the suitability of a soil for crop production, the stability of soil if used as construction material, and the potential of the soil to corrode metal and concrete.

Sodium adsorption ratio (SAR) is a measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration. Soils that have SAR values of 13 or more may be characterized by an increased dispersion of organic matter and clay particles, reduced permeability and aeration, and a general degradation of soil structure.

Water Features

Table 16, "Water Features," gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations.

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A.—Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B.—Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C.—Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D.—Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas.

The *months* in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. Table 16, "Water Features," indicates, by month, depth to the top (*upper limit*) and base (*lower limit*) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. Table 16, "Water Features," indicates *surface water depth* and the *duration* and *frequency* of ponding. Duration is expressed as *very brief* if less than 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. *None* means that ponding is not probable; *rare* that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); *occasional* that it occurs, on the average, once or less in 2 years (the chance of ponding is 5 to 50 percent in any year); and *frequent* that it occurs, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding is the temporary inundation of an area caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and *frequency* are estimated. Duration is expressed as *extremely brief* if 0.1 hour to 4 hours, *very brief* if 4 hours to 2 days, *brief* if 2 to 7 days, *long* if 7 to 30 days, and *very long* if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. *None* means that flooding is not probable; *very rare* that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); *rare* that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); *occasional* that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); *frequent* that it is likely to occur often under normal weather conditions (the chance of flooding is more than

50 percent in any year but is less than 50 percent in all months in any year); and *very frequent* that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

Soil Features

Table 17, "Soil Features," gives estimates of various soil features. The estimates are used in land use planning that involves engineering considerations.

A *restrictive layer* is a nearly continuous layer that has one or more physical, chemical, or thermal properties that significantly impede the movement of water and air through the soil or that restrict roots or otherwise provide an unfavorable root environment. Examples are bedrock, cemented layers, dense layers, and frozen layers. The table indicates the hardness and thickness of the restrictive layer, both of which significantly affect the ease of excavation. *Depth to top* is the vertical distance from the soil surface to the upper boundary of the restrictive layer.

Subsidence is the settlement of organic soils or of saturated mineral soils of very low density. Subsidence generally results from either desiccation and shrinkage or oxidation of organic material, or both, following drainage. Subsidence takes place gradually, usually over a period of several years. The table shows the expected initial subsidence, which usually is a result of drainage, and total subsidence, which results from a combination of factors.

Potential for frost action is the likelihood of upward or

lateral expansion of the soil caused by the formation of segregated ice lenses (frost heave) and the subsequent collapse of the soil and loss of strength on thawing. Frost action occurs when moisture moves into the freezing zone of the soil. Temperature, texture, density, permeability, content of organic matter, and depth to the water table are the most important factors considered in evaluating the potential for frost action. It is assumed that the soil is not insulated by vegetation or snow and is not artificially drained. Silty and highly structured, clayey soils that have a high water table in winter are the most susceptible to frost action. Well drained, very gravelly, or very sandy soils are the least susceptible. Frost heave and low soil strength during thawing cause damage to pavements and other rigid structures.

Risk of corrosion pertains to potential soil-induced electrochemical or chemical action that corrodes or weakens uncoated steel or concrete. The rate of corrosion of uncoated steel is related to such factors as soil moisture, particle-size distribution, acidity, and electrical conductivity of the soil. The rate of corrosion of concrete is based mainly on the sulfate and sodium content, texture, moisture content, and acidity of the soil. Special site examination and design may be needed if the combination of factors results in a severe hazard of corrosion. The steel or concrete in installations that intersect soil boundaries or soil layers is more susceptible to corrosion than the steel or concrete in installations that are entirely within one kind of soil or within one soil layer.

For uncoated steel, the risk of corrosion, expressed as *low*, *moderate*, or *high*, is based on soil drainage class, total acidity, electrical resistivity near field capacity, and electrical conductivity of the saturation extract.

For concrete, the risk of corrosion also is expressed as *low*, *moderate*, or *high*. It is based on soil texture, acidity, and amount of sulfates in the saturation extract.

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Glossary

ABC soil. A soil having an A, a B, and a C horizon.

Ablation till. Loose, permeable till deposited during the final downwasting of glacial ice. Lenses of crudely sorted sand and gravel are common.

AC soil. A soil having only an A and a C horizon.

Commonly, such soil formed in recent alluvium or on steep, rocky slopes.

Aeration, soil. The exchange of air in soil with air from the atmosphere. The air in a well aerated soil is similar to that in the atmosphere; the air in a poorly aerated soil is considerably higher in carbon dioxide and lower in oxygen.

Aggregate, soil. Many fine particles held in a single mass or cluster. Natural soil aggregates, such as granules, blocks, or prisms, are called peds. Clods are aggregates produced by tillage or logging.

Alkali (sodic) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Alluvial cone. The material washed down the sides of mountains and hills by ephemeral streams and deposited at the mouth of gorges in the form of a moderately steep, conical mass descending equally in all directions from the point of issue.

Alluvial fan. The fanlike deposit of a stream where it issues from a gorge upon a plain or of a tributary stream near or at its junction with its main stream.

Alluvium. Material, such as sand, silt, or clay, deposited on land by streams.

Alpha,alpha-dipyridyl. A dye that when dissolved in 1N ammonium acetate is used to detect the presence of reduced iron (Fe II) in the soil. A positive reaction indicates a type of redoximorphic feature.

Animal unit month (AUM). The amount of forage required by one mature cow of approximately 1,000 pounds weight, with or without a calf, for 1 month.

Aquic conditions. Current soil wetness characterized by saturation, reduction, and redoximorphic features.

Argillic horizon. A subsoil horizon characterized by an accumulation of illuvial clay.

Arroyo. The flat-floored channel of an ephemeral stream, commonly with very steep to vertical banks cut in alluvium.

Aspect. The direction in which a slope faces.

Association, soil. A group of soils or miscellaneous areas geographically associated in a characteristic repeating pattern and defined and delineated as a single map unit.

Available water capacity (available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field moisture capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil. The capacity, in inches, in a 60-inch profile or to a limiting layer is expressed as:

Very low	0 to 3
Low.....	3 to 6
Moderate	6 to 9
High.....	9 to 12
Very high.....	more than 12

Back slope. The position that forms the steepest and generally linear, middle portion of a hillslope. In profile, back slopes are commonly bounded by a convex shoulder above and a concave footslope below.

Badland. Steep or very steep, commonly nonstony, barren land dissected by many intermittent drainage channels. Badland is most common in semiarid and arid regions where streams are entrenched in soft geologic material. Local relief generally ranges from 25 to 500 feet. Runoff potential is very high, and geologic erosion is active.

Bajada. A broad alluvial slope extending from the base of a mountain range out into a basin and formed by coalescence of separate alluvial fans.

Basal area. The area of a cross section of a tree, generally referring to the section at breast height and measured outside the bark. It is a measure of stand density, commonly expressed in square feet.

Basal till. Compact glacial till deposited beneath the ice.

- Base saturation.** The degree to which material having cation-exchange properties is saturated with exchangeable bases (sum of Ca, Mg, Na, and K), expressed as a percentage of the total cation-exchange capacity.
- Base slope.** A geomorphic component of hills consisting of the concave to linear (perpendicular to the contour) slope that, regardless of the lateral shape, forms an apron or wedge at the bottom of a hillside dominated by colluvium and slope-wash sediments (for example, slope alluvium).
- Bedding planes.** Fine strata, less than 5 millimeters thick, in unconsolidated alluvial, eolian, lacustrine, or marine sediment.
- Bedding system.** A drainage system made by plowing, grading, or otherwise shaping the surface of a flat field. It consists of a series of low ridges separated by shallow, parallel dead furrows.
- Bedrock.** The solid rock that underlies the soil and other unconsolidated material or that is exposed at the surface.
- Bedrock-controlled topography.** A landscape where the configuration and relief of the landforms are determined or strongly influenced by the underlying bedrock.
- Bench terrace.** A raised, level or nearly level strip of earth constructed on or nearly on a contour, supported by a barrier of rocks or similar material, and designed to make the soil suitable for tillage and to prevent accelerated erosion.
- Bisequum.** Two sequences of soil horizons, each of which consists of an illuvial horizon and the overlying eluvial horizons.
- Blowout.** A shallow depression from which all or most of the soil material has been removed by the wind. A blowout has a flat or irregular floor formed by a resistant layer or by an accumulation of pebbles or cobbles. In some blowouts the water table is exposed.
- Bottom land.** The normal flood plain of a stream, subject to flooding.
- Boulders.** Rock fragments larger than 2 feet (60 centimeters) in diameter.
- Breaks.** The steep and very steep broken land at the border of an upland summit that is dissected by ravines.
- Breast height.** An average height of 4.5 feet above the ground surface; the point on a tree where diameter measurements are ordinarily taken.
- Brush management.** Use of mechanical, chemical, or biological methods to make conditions favorable for reseeding or to reduce or eliminate competition from woody vegetation and thus allow understory grasses and forbs to recover. Brush management increases forage production and thus reduces the hazard of erosion. It can improve the habitat for some species of wildlife.
- Butte.** An isolated small mountain or hill with steep or precipitous sides and a top variously flat, rounded, or pointed that may be a residual mass isolated by erosion or an exposed volcanic neck.
- Cable yarding.** A method of moving felled trees to a nearby central area for transport to a processing facility. Most cable yarding systems involve use of a drum, a pole, and wire cables in an arrangement similar to that of a rod and reel used for fishing. To reduce friction and soil disturbance, felled trees generally are reeled in while one end is lifted or the entire log is suspended.
- Calcareous soil.** A soil containing enough calcium carbonate (commonly combined with magnesium carbonate) to effervesce visibly when treated with cold, dilute hydrochloric acid.
- Caliche.** A more or less cemented deposit of calcium carbonate in soils of warm-temperate, subhumid to arid areas. Caliche occurs as soft, thin layers in the soil or as hard, thick beds directly beneath the solum, or it is exposed at the surface by erosion.
- California bearing ratio (CBR).** The load-supporting capacity of a soil as compared to that of standard crushed limestone, expressed as a ratio. First standardized in California. A soil having a CBR of 16 supports 16 percent of the load that would be supported by standard crushed limestone, per unit area, with the same degree of distortion.
- Canopy.** The leafy crown of trees or shrubs. (See Crown.)
- Canyon.** A long, deep, narrow, very steep sided valley with high, precipitous walls in an area of high local relief.
- Capillary water.** Water held as a film around soil particles and in tiny spaces between particles. Surface tension is the adhesive force that holds capillary water in the soil.
- Catena.** A sequence, or "chain," of soils on a landscape that formed in similar kinds of parent material but have different characteristics as a result of differences in relief and drainage.
- Cation.** An ion carrying a positive charge of electricity. The common soil cations are calcium, potassium, magnesium, sodium, and hydrogen.
- Cation-exchange capacity.** The total amount of exchangeable cations that can be held by the soil, expressed in terms of milliequivalents per 100 grams of soil at neutrality (pH 7.0) or at some other stated pH value. The term, as applied to soils, is synonymous with base-exchange capacity but is more precise in meaning.

- Catsteps.** Very small, irregular terraces on steep hillsides, especially in pasture, formed by the trampling of cattle or the slippage of saturated soil.
- Cement rock.** Shaly limestone used in the manufacture of cement.
- Channery soil material.** Soil material that has, by volume, 15 to 35 percent thin, flat fragments of sandstone, shale, slate, limestone, or schist as much as 6 inches (15 centimeters) along the longest axis. A single piece is called a channer.
- Chemical treatment.** Control of unwanted vegetation through the use of chemicals.
- Chiseling.** Tillage with an implement having one or more soil-penetrating points that shatter or loosen hard, compacted layers to a depth below normal plow depth.
- Cirque.** A semicircular, concave, bowl-like area that has steep faces primarily resulting from glacial ice and snow abrasion.
- Clay.** As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.
- Clay depletions.** Low-chroma zones having a low content of iron, manganese, and clay because of the chemical reduction of iron and manganese and the removal of iron, manganese, and clay. A type of redoximorphic depletion.
- Clay film.** A thin coating of oriented clay on the surface of a soil aggregate or lining pores or root channels. Synonyms: clay coating, clay skin.
- Claypan.** A slowly permeable soil horizon that contains much more clay than the horizons above it. A claypan is commonly hard when dry and plastic or stiff when wet.
- Climax plant community.** The stabilized plant community on a particular site. The plant cover reproduces itself and does not change so long as the environment remains the same.
- Coarse textured soil.** Sand or loamy sand.
- Cobble (or cobblestone).** A rounded or partly rounded fragment of rock 3 to 10 inches (7.6 to 25 centimeters) in diameter. Material that has 15 to 35 percent, by volume, rounded or partially rounded rock fragments 3 to 10 inches (7.6 to 25 centimeters) in diameter. Very cobbly soil material has 35 to 60 percent of these rock fragments, and extremely cobbly soil material has more than 60 percent.
- COLE (coefficient of linear extensibility).** See Linear extensibility.
- Colluvium.** Soil material or rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.
- Complex slope.** Irregular or variable slope. Planning or establishing terraces, diversions, and other water-control structures on a complex slope is difficult.
- Complex, soil.** A map unit of two or more kinds of soil or miscellaneous areas in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas.
- Concretions.** Cemented bodies with crude internal symmetry organized around a point, a line, or a plane. They typically take the form of concentric layers visible to the naked eye. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up concretions. If formed in place, concretions of iron oxide or manganese oxide are generally considered a type of redoximorphic concentration.
- Congeliturbate.** Soil material disturbed by frost action.
- Conglomerate.** A coarse grained, clastic rock composed of rounded or subangular rock fragments more than 2 millimeters in diameter. It commonly has a matrix of sand and finer textured material. Conglomerate is the consolidated equivalent of gravel.
- Conservation cropping system.** Growing crops in combination with needed cultural and management practices. In a good conservation cropping system, the soil-improving crops and practices more than offset the effects of the soil-depleting crops and practices. Cropping systems are needed on all tilled soils. Soil-improving practices in a conservation cropping system include the use of rotations that contain grasses and legumes and the return of crop residue to the soil. Other practices include the use of green manure crops of grasses and legumes, proper tillage, adequate fertilization, and weed and pest control.
- Conservation tillage.** A tillage system that does not invert the soil and that leaves a protective amount of crop residue on the surface throughout the year.
- Consistence, soil.** Refers to the degree of cohesion and adhesion of soil material and its resistance to deformation when ruptured. Consistence includes resistance of soil material to rupture and to penetration; plasticity, toughness, and stickiness of puddled soil material; and the manner in which the soil material behaves when subject to compression. Terms describing consistence are defined in the "Soil Survey Manual."

Contour stripcropping. Growing crops in strips that follow the contour. Strips of grass or close-growing crops are alternated with strips of clean-tilled crops or summer fallow.

Control section. The part of the soil on which classification is based. The thickness varies among different kinds of soil, but for many it is that part of the soil profile between depths of 10 inches and 40 or 80 inches.

Coppice dune. A small dune of fine grained soil material stabilized around shrubs or small trees.

Coprogenous earth (sedimentary peat). Fecal material deposited in water by aquatic organisms.

Corrosion. Soil-induced electrochemical or chemical action that dissolves or weakens concrete or uncoated steel.

Cover crop. A close-growing crop grown primarily to improve and protect the soil between periods of regular crop production, or a crop grown between trees and vines in orchards and vineyards.

Cropping system. Growing crops according to a planned system of rotation and management practices.

Crop residue management. Returning crop residue to the soil, which helps to maintain soil structure, organic matter content, and fertility and helps to control erosion.

Cross-slope farming. Deliberately conducting farming operations on sloping farmland in such a way that tillage is across the general slope.

Crown. The upper part of a tree or shrub, including the living branches and their foliage.

Cuesta. A hill or ridge that has a gentle slope on one side and a steep slope on the other; specifically, an upward movement of the underlying sediments or that remains after finer particles have been removed by running water or the wind.

Dip slope. A slope of the land surface, roughly determined by and approximately conforming to the dip of the underlying bedrock.

Diversion (or diversion terrace). A ridge of earth, generally a terrace, built to protect downslope areas by diverting runoff from its natural course.

Divided-slope farming. A form of field stripcropping in which crops are grown in a systematic arrangement of two strips, or bands, across the slope to reduce the hazard of water erosion. One strip is in a close-growing crop that provides protection from erosion, and the other strip is in a crop that provides less protection from erosion. This practice is used where slopes are not long enough to permit a full stripcropping pattern to be used.

Drainage class (natural). Refers to the frequency and duration of wet periods under conditions similar to

asymmetric, homoclinal ridge capped by resistant rock layers of slight or moderate dip.

Culmination of the mean annual increment (CMAI).

The average annual increase per acre in the volume of a stand. Computed by dividing the total volume of the stand by its age. As the stand increases in age, the mean annual increment continues to increase until mortality begins to reduce the rate of increase. The point where the stand reaches its maximum annual rate of growth is called the culmination of the mean annual increment.

Cutbanks cave (in tables). The walls of excavations tend to cave in or slough.

Decreasers. The most heavily grazed climax range plants. Because they are the most palatable, they are the first to be destroyed by overgrazing.

Deferred grazing. Postponing grazing or resting grazing land for a prescribed period.

Delta. A body of alluvium having a surface that is nearly flat and fan shaped; deposited at or near the mouth of a river or stream where it enters a body of relatively quiet water, generally a sea or lake.

Dense layer (in tables). A very firm, massive layer that has a bulk density of more than 1.8 grams per cubic centimeter. Such a layer affects the ease of digging and can affect filling and compacting.

Depth, soil. Generally, the thickness of the soil over bedrock. Very deep soils are more than 60 inches deep over bedrock; deep soils, 40 to 60 inches; moderately deep, 20 to 40 inches; shallow, 10 to 20 inches; and very shallow, less than 10 inches.

Desert pavement. On a desert surface, a layer of gravel or larger fragments that was emplaced by

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, somewhat well drained, somewhat poorly drained, poorly drained, and very poorly drained. These classes are defined in the "Soil Survey Manual."

Drainage, surface. Runoff, or surface flow of water, from an area.

Draw. A small stream valley that generally is more open and has broader bottom land than a ravine or gulch.

Drumlin. A low, smooth, elongated oval hill, mound, or ridge of compact glacial till. The longer axis is parallel to the path of the glacier and commonly has a blunt nose pointing in the direction from which the ice approached.

Duff. A generally firm organic layer on the surface of mineral soils. It consists of fallen plant material that is in the process of decomposition and includes everything from the litter on the surface to underlying pure humus.

Ecological site. An area where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. An ecological site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other ecological sites in kind and/or proportion of species or in total production.

Eluviation. The movement of material in true solution or colloidal suspension from one place to another within the soil. Soil horizons that have lost material through eluviation are eluvial; those that have received material are illuvial.

Endosaturation. A type of saturation of the soil in which all horizons between the upper boundary of saturation and a depth of 2 meters are saturated.

Eolian soil material. Earthy parent material accumulated through wind action; commonly refers to sandy material in dunes or to loess in blankets on the surface.

Ephemeral stream. A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no long-continued supply from melting snow or other source, and its channel is above the water table at all times.

Episaturation. A type of saturation indicating a perched water table in a soil in which saturated layers are underlain by one or more unsaturated layers within 2 meters of the surface.

Erosion. The wearing away of the land surface by water, wind, ice, or other geologic agents and by such processes as gravitational creep.

Erosion (geologic). Erosion caused by geologic processes acting over long geologic periods and resulting in the wearing away of mountains and the building up of such landscape features as flood plains and coastal plains. Synonym: natural erosion.

Erosion (accelerated). Erosion much more rapid than geologic erosion, mainly as a result of human or animal activities or of a catastrophe in nature, such as a fire, that exposes the surface.

Erosion pavement. A layer of gravel or stones that remains on the surface after fine particles are removed by sheet or rill erosion.

Escarpment. A relatively continuous and steep slope or cliff breaking the general continuity of more gently sloping land surfaces and resulting from erosion or faulting. Synonym: scarp.

Esker. A narrow, winding ridge of stratified gravelly and sandy drift deposited by a stream flowing in a tunnel beneath a glacier.

Extrusive rock. Igneous rock derived from deep-seated molten matter (magma) emplaced on the earth's surface.

Fallow. Cropland left idle in order to restore productivity through accumulation of moisture. Summer fallow is common in regions of limited rainfall where cereal grain is grown. The soil is tilled for at least one growing season for weed control and decomposition of plant residue.

Fan terrace. A relict alluvial fan, no longer a site of active deposition, incised by younger and lower alluvial surfaces.

Fertility, soil. The quality that enables a soil to provide plant nutrients, in adequate amounts and in proper balance, for the growth of specified plants when light, moisture, temperature, tilth, and other growth factors are favorable.

Fibric soil material (peat). The least decomposed of all organic soil material. Peat contains a large amount of well preserved fiber that is readily identifiable according to botanical origin. Peat has the lowest bulk density and the highest water content at saturation of all organic soil material.

Field moisture capacity. The moisture content of a soil, expressed as a percentage of the oven-dry weight, after the gravitational, or free, water has drained away; the field moisture content 2 or 3 days after a soaking rain; also called *normal field capacity*, *normal moisture capacity*, or *capillary capacity*.

Fill slope. A sloping surface consisting of excavated soil material from a road cut. It commonly is on the downhill side of the road.

Fine textured soil. Sandy clay, silty clay, or clay.

Firebreak. Area cleared of flammable material to stop or help control creeping or running fires. It also serves as a line from which to work and to facilitate the movement of firefighters and equipment. Designated roads also serve as firebreaks.

First bottom. The normal flood plain of a stream, subject to frequent or occasional flooding.

Flaggy soil material. Material that has, by volume, 15 to 35 percent flagstones. Very flaggy soil material has 35 to 60 percent flagstones, and extremely flaggy soil material has more than 60 percent flagstones.

Flagstone. A thin fragment of sandstone, limestone, slate, shale, or (rarely) schist 6 to 15 inches (15 to 38 centimeters) long.

Flood plain. A nearly level alluvial plain that borders a stream and is subject to flooding unless protected artificially.

- Fluvial.** Of or pertaining to rivers; produced by river action, as a fluvial plain.
- Foothill.** A steeply sloping upland that has relief of as much as 1,000 feet (300 meters) and fringes a mountain range or high-plateau escarpment.
- Footslope.** The position that forms the inner, gently inclined surface at the base of a hillslope. In profile, footslopes are commonly concave. A footslope is a transition zone between upslope sites of erosion and transport (shoulders and backslopes) and downslope sites of deposition (toeslopes).
- Forb.** Any herbaceous plant not a grass or a sedge.
- Forest cover.** All trees and other woody plants (underbrush) covering the ground in a forest.
- Forest type.** A stand of trees similar in composition and development because of given physical and biological factors by which it may be differentiated from other stands.
- Fragipan.** A loamy, brittle subsurface horizon low in porosity and content of organic matter and low or moderate in clay but high in silt or very fine sand. A fragipan appears cemented and restricts roots. When dry, it is hard or very hard and has a higher bulk density than the horizon or horizons above. When moist, it tends to rupture suddenly under pressure rather than to deform slowly.
meltwater. Many deposits are interbedded or laminated.
- Gleyed soil.** Soil that formed under poor drainage, resulting in the reduction of iron and other elements in the profile and in gray colors.
- Graded stripcropping.** Growing crops in strips that grade toward a protected waterway.
- Grassed waterway.** A natural or constructed waterway, typically broad and shallow, seeded to grass as protection against erosion. Conducts surface water away from cropland.
- Gravel.** Rounded or angular fragments of rock as much as 3 inches (2 millimeters to 7.6 centimeters) in diameter. An individual piece is a pebble.
- Gravelly soil material.** Material that has 15 to 35 percent, by volume, rounded or angular rock fragments, not prominently flattened, as much as 3 inches (7.6 centimeters) in diameter.
- Green manure crop (agronomy).** A soil-improving crop grown to be plowed under in an early stage of maturity or soon after maturity.
- Ground water.** Water filling all the unblocked pores of the material below the water table.
- Gully.** A miniature valley with steep sides cut by running water and through which water ordinarily runs only after rainfall. The distinction between a gully and a rill is one of depth. A gully generally is an obstacle to farm machinery and is too deep to be obliterated by
- Genesis, soil.** The mode of origin of the soil. Refers especially to the processes or soil-forming factors responsible for the formation of the solum, or true soil, from the unconsolidated parent material.
- Gilgai.** Commonly, a succession of microbasins and microknolls in nearly level areas or of microvalleys and microridges parallel with the slope. Typically, the microrelief of clayey soils that shrink and swell considerably with changes in moisture content.
- Glacial drift.** Pulverized and other rock material transported by glacial ice and then deposited. Also, the sorted and unsorted material deposited by streams flowing from glaciers.
- Glacial outwash.** Gravel, sand, and silt, commonly stratified, deposited by glacial meltwater.
- Glacial till.** Unsorted, nonstratified glacial drift consisting of clay, silt, sand, and boulders transported and deposited by glacial ice.
- Glaciofluvial deposits.** Material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and occur as kames, eskers, deltas, and outwash plains.
- Glaciolacustrine deposits.** Material ranging from fine clay to sand derived from glaciers and deposited in glacial lakes mainly by glacial ordinary tillage; a rill is of lesser depth and can be smoothed over by ordinary tillage.
- Hard bedrock.** Bedrock that cannot be excavated except by blasting or by the use of special equipment that is not commonly used in construction.
- Hardpan.** A hardened or cemented soil horizon, or layer. The soil material is sandy, loamy, or clayey and is cemented by iron oxide, silica, calcium carbonate, or other substance.
- Hard to reclaim (in tables).** Reclamation is difficult after the removal of soil for construction and other uses. Revegetation and erosion control are extremely difficult.
- Head out.** To form a flower head.
- Head slope.** A geomorphic component of hills consisting of a laterally concave area of a hillside, especially at the head of a drainageway. The overland waterflow is converging.
- Hemic soil material (mucky peat).** Organic soil material intermediate in degree of decomposition between the less decomposed fibric material and the more decomposed sapric material.
- High-residue crops.** Such crops as small grain and corn used for grain. If properly managed, residue from these crops can be used to control erosion until the next crop in the rotation is established. These crops return large amounts of organic matter to the soil.

Hill. A natural elevation of the land surface, rising as much as 1,000 feet above surrounding lowlands, commonly of limited summit area and having a well defined outline; hillsides generally have slopes of more than 15 percent. The distinction between a hill and a mountain is arbitrary and is dependent on local usage.

Horizon, soil. A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes. In the identification of soil horizons, an uppercase letter represents the major horizons. Numbers or lowercase letters that follow represent subdivisions of the major horizons. An explanation of the subdivisions is given in the "Soil Survey Manual." The major horizons of mineral soil are as follows:

O horizon.— An organic layer of fresh and decaying plant residue.

A horizon.—The mineral horizon at or near the surface in which an accumulation of humified organic matter is mixed with the mineral material. Also, a plowed surface horizon, most of which was originally part of a B horizon.

E horizon.—The mineral horizon in which the main feature is loss of silicate clay, iron, aluminum, or some combination of these.

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of transition from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics, such as (1) accumulation of clay, sesquioxides, humus, or a combination of these; (2) prismatic or blocky structure; (3) redder or browner colors than those in the A horizon; or (4) a combination of these.

C horizon.—The mineral horizon or layer, excluding indurated bedrock, that is little affected by soil-forming processes and does not have the properties typical of the overlying soil material. The material of a C horizon may be either like or unlike that in which the solum formed. If the material is known to differ from that in the solum, an Arabic numeral, commonly a 2, precedes the letter C.

Cr horizon.—Soft, consolidated bedrock beneath the soil.

R layer.—Consolidated bedrock beneath the soil. The bedrock commonly underlies a C horizon, but it can be directly below an A or a B horizon.

Humus. The well decomposed, more or less stable part of the organic matter in mineral soils.

Hydrologic soil groups. Refers to soils grouped according to their runoff potential. The soil properties that influence this potential are those that affect the minimum rate of water infiltration on a bare soil during periods after prolonged wetting when the soil is not

frozen. These properties are depth to a seasonal high water table, the infiltration rate and permeability after prolonged wetting, and depth to a very slowly permeable layer. The slope and the kind of plant cover are not considered but are separate factors in predicting runoff.

Igneous rock. Rock formed by solidification from a molten or partially molten state. Major varieties include plutonic and volcanic rock. Examples are andesite, basalt, and granite.

Illuviation. The movement of soil material from one horizon to another in the soil profile. Generally, material is removed from an upper horizon and deposited in a lower horizon.

Impervious soil. A soil through which water, air, or roots penetrate slowly or not at all. No soil is absolutely impervious to air and water all the time.

Increasesers. Species in the climax vegetation that increase in amount as the more desirable plants are reduced by close grazing. Increasesers commonly are the shorter plants and the less palatable to livestock.

Infiltration. The downward entry of water into the immediate surface of soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Infiltration capacity. The maximum rate at which water can infiltrate into a soil under a given set of conditions.

Infiltration rate. The rate at which water penetrates the surface of the soil at any given instant, usually expressed in inches per hour. The rate can be limited by the infiltration capacity of the soil or the rate at which water is applied at the surface.

Intake rate. The average rate of water entering the soil under irrigation. Most soils have a fast initial rate; the rate decreases with application time. Therefore, intake rate for design purposes is not a constant but is a variable depending on the net irrigation application. The rate of water intake, in inches per hour, is expressed as follows:

Less than 0.2.....	very low
0.2 to 0.4	low
0.4 to 0.75	moderately low
0.75 to 1.25	moderate
1.25 to 1.75	moderately high
1.75 to 2.5	high
More than 2.5	very high

Interfluve. An elevated area between two drainageways that sheds water to those drainageways.

Intermittent stream. A stream, or reach of a stream, that flows for prolonged periods only when it receives ground-water discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Invaders. On range, plants that encroach into an area and grow after the climax vegetation has been reduced by grazing. Generally, plants invade following disturbance of the surface.

Iron depletions. Low-chroma zones having a low content of iron and manganese oxide because of chemical reduction and removal, but having a clay content similar to that of the adjacent matrix. A type of redoximorphic depletion.

Irrigation. Application of water to soils to assist in production of crops. Methods of irrigation are:

Basin.—Water is applied rapidly to nearly level plains surrounded by levees or dikes.

Border.—Water is applied at the upper end of a strip in which the lateral flow of water is controlled by small earth ridges called border dikes, or borders.

Controlled flooding.—Water is released at intervals from closely spaced field ditches and distributed uniformly over the field.

Corrugation.—Water is applied to small, closely spaced furrows or ditches in fields of close-growing crops or in orchards so that it flows in only one direction.

Drip (or trickle).—Water is applied slowly and under low pressure to the surface of the soil or into the soil through such applicators as emitters, porous tubing, or perforated pipe.

Furrow.—Water is applied in small ditches made by cultivation implements. Furrows are used for tree and row crops.

Sprinkler.—Water is sprayed over the soil surface through pipes or nozzles from a pressure system.

Subirrigation.—Water is applied in open ditches or tile lines until the water table is raised enough to wet the soil.

Wild flooding.—Water, released at high points, is allowed to flow onto an area without controlled distribution.

Kame. An irregular, short ridge or hill of stratified glacial drift.

Karst (topography). The relief of an area underlain by limestone that dissolves in differing degrees, thus forming numerous depressions or small basins.

Knoll. A small, low, rounded hill rising above adjacent landforms.

Ksat. Saturated hydraulic conductivity. (See Permeability.)

Lacustrine deposit. Material deposited in lake water and exposed when the water level is lowered or the elevation of the land is raised.

Landslide. The rapid downhill movement of a mass of soil and loose rock, generally when wet or saturated. The speed and distance of movement, as well as the amount of soil and rock material, vary greatly.

Large stones (in tables). Rock fragments 3 inches (7.6 centimeters) or more across. Large stones adversely affect the specified use of the soil.

Leaching. The removal of soluble material from soil or other material by percolating water.

Linear extensibility. Refers to the change in length of an unconfined clod as moisture content is decreased from a moist to a dry state. Linear extensibility is used to determine the shrink-swell potential of soils. It is an expression of the volume change between the water content of the clod at 1/3 or 1/10 bar tension (33kPa or 10kPa tension) and oven dryness. Volume change is influenced by the amount and type of clay minerals in the soil. The volume change is the percent change for the whole soil. If it is expressed as a fraction, the resulting value is COLE, coefficient of linear extensibility.

Liquid limit. The moisture content at which the soil passes from a plastic to a liquid state.

Loam. Soil material that is 7 to 27 percent clay particles, 28 to 50 percent silt particles, and less than 52 percent sand particles.

Loess. Fine grained material, dominantly of silt-sized particles, deposited by wind.

Low-residue crops. Such crops as corn used for silage, peas, beans, and potatoes. Residue from these crops is not adequate to control erosion until the next crop in the rotation is established. These crops return little organic matter to the soil.

Low strength. The soil is not strong enough to support loads.

Marl. An earthy, unconsolidated deposit consisting chiefly of calcium carbonate mixed with clay in approximately equal amounts.

Masses. Concentrations of substances in the soil matrix that do not have a clearly defined boundary with the surrounding soil material and cannot be removed as a discrete unit. Common compounds making up masses are calcium carbonate, gypsum or other soluble salts, iron oxide, and manganese oxide. Masses consisting of iron oxide or manganese oxide generally are considered a type of redoximorphic concentration.

Mechanical treatment. Use of mechanical equipment for seeding, brush management, and other management practices.

Medium textured soil. Very fine sandy loam, loam, silt loam, or silt.

Mesa. A broad, nearly flat topped and commonly isolated upland mass characterized by summit widths that are more than the heights of bounding erosional scarps.

Metamorphic rock. Rock of any origin altered in mineralogical composition, chemical composition, or structure by heat, pressure, and movement. Nearly all such rocks are crystalline.

Mineral soil. Soil that is mainly mineral material and low in organic material. Its bulk density is more than that of organic soil.

Minimum tillage. Only the tillage essential to crop production and prevention of soil damage.

Miscellaneous area. An area that has little or no natural soil and supports little or no vegetation.

Moderately coarse textured soil. Coarse sandy loam, sandy loam, or fine sandy loam.

Moderately fine textured soil. Clay loam, sandy clay loam, or silty clay loam.

Mollic epipedon. A thick, dark, humus-rich surface horizon (or horizons) that has high base saturation and pedogenic soil structure. It may include the upper part of the subsoil.

Moraine. An accumulation of earth, stones, and other debris deposited by a glacier. Some types are terminal, lateral, medial, and ground.

Morphology, soil. The physical makeup of the soil, including the texture, structure, porosity, consistence, color, and other physical, mineral, and biological properties of the various horizons, and the thickness and arrangement of those horizons in the soil profile.

Mottling, soil. Irregular spots of different colors that vary in number and size. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

Mountain. A natural elevation of the land surface, rising more than 1,000 feet above surrounding lowlands, commonly of restricted summit area (relative to a plateau) and generally having steep sides. A mountain can occur as a single, isolated mass or in a group forming a chain or range.

Muck. Dark, finely divided, well decomposed organic soil material. (See Sapric soil material.)

Mudstone. Sedimentary rock formed by induration of silt and clay in approximately equal amounts.

Munsell notation. A designation of color by degrees of three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with hue of 10YR, value of 6, and chroma of 4.

Natric horizon. A special kind of argillic horizon that contains enough exchangeable sodium to have an adverse effect on the physical condition of the subsoil.

Neutral soil. A soil having a pH value of 6.6 to 7.3. (See Reaction, soil.)

Nodules. Cemented bodies lacking visible internal structure. Calcium carbonate, iron oxide, and manganese oxide are common compounds making up nodules. If formed in place, nodules of iron oxide or manganese oxide are considered types of redoximorphic concentrations.

Nose slope. A geomorphic component of hills consisting of the projecting end (laterally convex area) of a hillside. The overland waterflow is predominantly divergent.

Nutrient, plant. Any element taken in by a plant essential to its growth. Plant nutrients are mainly nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, iron, manganese, copper, boron, and zinc obtained from the soil and carbon, hydrogen, and oxygen obtained from the air and water.

Organic matter. Plant and animal residue in the soil in various stages of decomposition. The content of organic matter in the surface layer is described as follows:

Very low	less than 0.5 percent
Low.....	0.5 to 1.0 percent
Moderately low.....	0 to 2.0 percent
Moderate.....	2.0 to 4.0 percent
High.....	4.0 to 8.0 percent
Very high.....	more than 8.0 percent

Outwash plain. A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it generally is low in relief.

Paleoterrace. An erosional remnant of a terrace that retains the surface form and alluvial deposits of its origin but was not emplaced by, and commonly does not grade to, a present-day stream or drainage network.

Pan. A compact, dense layer in a soil that impedes the movement of water and the growth of roots. For example, *hardpan*, *fragipan*, *claypan*, *plowpan*, and *traffic pan*.

Parent material. The unconsolidated organic and mineral material in which soil forms.

Peat. Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture. (See Fibric soil material.)

Ped. An individual natural soil aggregate, such as a granule, a prism, or a block.

Pedisediment. A thin layer of alluvial material that mantles an erosion surface and has been transported to its present position from higher lying areas of the erosion surface.

Pedon. The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from

about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

Percolation. The movement of water through the soil.

Permafrost. Layers of soil, or even bedrock, occurring in arctic or subarctic regions, in which a temperature below freezing has existed continuously for a long time.

Permeability. The quality of the soil that enables water or air to move downward through the profile. The rate at which a saturated soil transmits water is accepted as a measure of this quality. In soil physics, the rate is referred to as "saturated hydraulic conductivity," which is defined in the "Soil Survey Manual." In line with conventional usage in the engineering profession and with traditional usage in published soil surveys, this rate of flow continues to be expressed as "permeability." Terms describing permeability, measured in inches per hour, are as follows:

Impermeable	less than 0.0015 inch
Very slow	0.0015 to 0.06 inch
Slow	0.06 to 0.2 inch
Moderately slow	0.2 to 0.6 inch
Moderate	0.6 inch to 2.0 inches
Moderately rapid	2.0 to 6.0 inches
Rapid	6.0 to 20 inches
Very rapid	more than 20 inches

Phase, soil. A subdivision of a soil series based on features that affect its use and management, such as slope, stoniness, and flooding.

pH value. A numerical designation of acidity and alkalinity in soil. (See Reaction, soil.)

Piping (in tables). Formation of subsurface tunnels or pipelike cavities by water moving through the soil.

Pitting (in tables). Pits caused by melting around ice. They form on the soil after plant cover is removed.

Plasticity index. The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

Plastic limit. The moisture content at which a soil changes from semisolid to plastic.

Plateau. An extensive upland mass with relatively flat summit area that is considerably elevated (more than 100 meters) above adjacent lowlands and separated from them on one or more sides by escarpments.

Playa. The generally dry and nearly level lake plain that occupies the lowest parts of closed depressional areas, such as those on intermontane basin floors. Temporary flooding occurs primarily in response to precipitation and runoff.

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other diluents. It commonly appears as red mottles, usually

in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to an ironstone hardpan or to irregular aggregates on repeated wetting and drying, especially if it is exposed also to heat from the sun. In a moist soil, plinthite can be cut with a spade. It is a form of laterite.

Plowpan. A compacted layer formed in the soil directly below the plowed layer.

Ponding. Standing water on soils in closed depressions. Unless the soils are artificially drained, the water can be removed only by percolation or evapotranspiration.

Poorly graded. Refers to a coarse grained soil or soil material consisting mainly of particles of nearly the same size. Because there is little difference in size of the particles, density can be increased only slightly by compaction.

Potential native plant community. See Climax plant community.

Potential rooting depth (effective rooting depth).

Depth to which roots could penetrate if the content of moisture in the soil were adequate. The soil has no properties restricting the penetration of roots to this depth.

Prescribed burning. Deliberately burning an area for specific management purposes, under the appropriate conditions of weather and soil moisture and at the proper time of day.

Productivity, soil. The capability of a soil for producing a specified plant or sequence of plants under specific management.

Profile, soil. A vertical section of the soil extending through all its horizons and into the parent material.

Proper grazing use. Grazing at an intensity that maintains enough cover to protect the soil and maintain or improve the quantity and quality of the desirable vegetation. This practice increases the vigor and reproduction capacity of the key plants and promotes the accumulation of litter and mulch necessary to conserve soil and water.

Rangeland. Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Reaction, soil. A measure of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it is neither acid nor alkaline. The degrees of acidity or alkalinity, expressed as pH values, are:

Ultra acid	less than 3.5
Extremely acid	3.5 to 4.4
Very strongly acid	4.5 to 5.0

Strongly acid	5.1 to 5.5
Moderately acid	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral	6.6 to 7.3
Slightly alkaline	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline	8.5 to 9.0
Very strongly alkaline.....	9.1 and higher

Red beds. Sedimentary strata that are mainly red and are made up largely of sandstone and shale.

Redoximorphic concentrations. Nodules, concretions, soft masses, pore linings, and other features resulting from the accumulation of iron or manganese oxide. An indication of chemical reduction and oxidation resulting from saturation.

Redoximorphic depletions. Low-chroma zones from which iron and manganese oxide or a combination of iron and manganese oxide and clay has been removed. These zones are indications of the chemical reduction of iron resulting from saturation.

Redoximorphic features. Redoximorphic concentrations, redoximorphic depletions, reduced matrices, a positive reaction to alpha,alpha-dipyridyl, and other features indicating the chemical reduction and oxidation of iron and manganese compounds resulting from saturation.

Reduced matrix. A soil matrix that has low chroma in situ because of chemically reduced iron (Fe II). The chemical reduction results from nearly continuous wetness. The matrix undergoes a change in hue or chroma within 30 minutes after exposure to air as the iron is oxidized (Fe III). A type of redoximorphic feature.

Regolith. The unconsolidated mantle of weathered rock and soil material on the earth's surface; the loose earth material above the solid rock.

Relief. The elevations or inequalities of a land surface, considered collectively.

Residuum (residual soil material). Unconsolidated, weathered or partly weathered mineral material that accumulated as consolidated rock disintegrated in place.

Rill. A steep-sided channel resulting from accelerated erosion. A rill generally is a few inches deep and not wide enough to be an obstacle to farm machinery.

Road cut. A sloping surface produced by mechanical means during road construction. It is commonly on the uphill side of the road.

Rock fragments. Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

Root zone. The part of the soil that can be penetrated by plant roots.

Runoff. The precipitation discharged into stream channels from an area. The water that flows off the surface of the land without sinking into the soil is called surface runoff. Water that enters the soil before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Saline soil. A soil containing soluble salts in an amount that impairs growth of plants. A saline soil does not contain excess exchangeable sodium.

Sand. As a soil separate, individual rock or mineral fragments from 0.05 millimeter to 2.0 millimeters in diameter. Most sand grains consist of quartz. As a soil textural class, a soil that is 85 percent or more sand and not more than 10 percent clay.

Sandstone. Sedimentary rock containing dominantly sand-sized particles.

Sapric soil material (muck). The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

Saprolite. Unconsolidated residual material underlying the soil and grading to hard bedrock below.

Saturation. Wetness characterized by zero or positive pressure of the soil water. Under conditions of saturation, the water will flow from the soil matrix into an unlined auger hole.

Scarification. The act of abrading, scratching, loosening, crushing, or modifying the surface to increase water absorption or to provide a more tillable soil.

Second bottom. The first terrace above the normal flood plain (or first bottom) of a river.

Sedimentary rock. Rock made up of particles deposited from suspension in water. The chief kinds of sedimentary rock are conglomerate, formed from gravel; sandstone, formed from sand; shale, formed from clay; and limestone, formed from soft masses of calcium carbonate. There are many intermediate types. Some wind-deposited sand is consolidated into sandstone.

Sequum. A sequence consisting of an illuvial horizon and the overlying eluvial horizon. (See Eluviation.)

Series, soil. A group of soils that have profiles that are almost alike, except for differences in texture of the surface layer. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Shale. Sedimentary rock formed by the hardening of a clay deposit.

Sheet erosion. The removal of a fairly uniform layer of soil material from the land surface by the action of rainfall and surface runoff.

Shoulder. The position that forms the uppermost inclined surface near the top of a hillslope. It is a transition from backslope to summit. The surface is dominantly convex in profile and erosional in origin.

Shrink-swell (in tables). The shrinking of soil when dry and the swelling when wet. Shrinking and swelling can damage roads, dams, building foundations, and other structures. It can also damage plant roots.

Side slope. A geomorphic component of hills consisting of a laterally planar area of a hillside. The overland waterflow is predominantly parallel.

Silica. A combination of silicon and oxygen. The mineral form is called quartz.

Silica-sesquioxide ratio. The ratio of the number of molecules of silica to the number of molecules of alumina and iron oxide. The more highly weathered soils or their clay fractions in warm-temperate, humid regions, and especially those in the tropics, generally have a low ratio.

Silt. As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

Siltstone. Sedimentary rock made up of dominantly silt-sized particles.

Similar soils. Soils that share limits of diagnostic criteria, behave and perform in a similar manner, and have similar conservation needs or management requirements for the major land uses in the survey area.

Sinkhole. A depression in the landscape where limestone has been dissolved.

Site index. A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75.

Slickensides. Polished and grooved surfaces produced by one mass sliding past another. In soils, slickensides may occur at the bases of slip surfaces on the steeper slopes; on faces of blocks, prisms, and columns; and in swelling clayey soils, where there is marked change in moisture content.

Slick spot. A small area of soil having a puddled, crusted, or smooth surface and an excess of exchangeable sodium. The soil generally is silty or clayey, is slippery when wet, and is low in productivity.

Slope. The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100.

Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance

Sloughed till. Water-saturated till that has flowed slowly downhill from its original place of deposit by glacial ice. It may rest on other till, on glacial outwash, or on a glaciolacustrine deposit.

Slow refill (in tables). The slow filling of ponds, resulting from restricted permeability in the soil.

Sodic (alkali) soil. A soil having so high a degree of alkalinity (pH 8.5 or higher) or so high a percentage of exchangeable sodium (15 percent or more of the total exchangeable bases), or both, that plant growth is restricted.

Sodicity. The degree to which a soil is affected by exchangeable sodium. Sodicity is expressed as a sodium adsorption ratio (SAR) of a saturation extract, or the ratio of Na^+ to $\text{Ca}^{++} + \text{Mg}$. The degrees of sodicity and their respective ratios are:

Slight	less than 13:1
Moderate	13-30:1
Strong	more than 30:1

Sodium adsorption ratio (SAR). A measure of the amount of sodium (Na) relative to calcium (Ca) and magnesium (Mg) in the water extract from saturated soil paste. It is the ratio of the Na concentration divided by the square root of one-half of the Ca + Mg concentration.

Soft bedrock. Bedrock that can be excavated with trenching machines, backhoes, small rippers, and other equipment commonly used in construction.

Soil. A natural, three-dimensional body at the earth's surface. It is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Soil separates. Mineral particles less than 2 millimeters in equivalent diameter and ranging between specified size limits. The names and sizes, in millimeters, of separates recognized in the United States are as follows:

Very coarse sand	2.0 to 1.0
Coarse sand	1.0 to 0.5
Medium sand	0.5 to 0.25
Fine sand	0.25 to 0.10
Very fine sand	0.10 to 0.05
Silt	0.05 to 0.002
Clay	less than 0.002

Solum. The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in soil consists of the A, E, and B horizons. Generally, the characteristics of the material

in these horizons are unlike those of the material below the solum. The living roots and plant and animal activities are largely confined to the solum.

- Stone line.** A concentration of coarse fragments in a soil. Generally, it is indicative of an old weathered surface. In a cross section, the line may be one fragment or more thick. It generally overlies material that weathered in place and is overlain by recent sediment of variable thickness.
- Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter if rounded or 15 to 24 inches (38 to 60 centimeters) in length if flat.
- Stony.** Refers to a soil containing stones in numbers that interfere with or prevent tillage.
- Stripcropping.** Growing crops in a systematic arrangement of strips or bands that provide vegetative barriers to wind erosion and water erosion.
- Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates. The principal forms of soil structure are—*platy (laminated)*, *prismatic (vertical axis of aggregates longer than horizontal)*, *columnar (prisms with rounded tops)*, *blocky (angular or subangular)*, and *granular*. *Structureless* soils are either single grain (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).
- Stubble mulch.** Stubble or other crop residue left on the soil or partly worked into the soil. It protects the soil from wind erosion and water erosion after harvest, during preparation of a seedbed for the next crop, and during the early growing period of the new crop.
- Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.
- Subsoiling.** Tilling a soil below normal plow depth, ordinarily to shatter a hardpan or claypan.
- Substratum.** The part of the soil below the solum.
- Subsurface layer.** Any surface soil horizon (A, E, AB, or EB) below the surface layer.
- Summer fallow.** The tillage of uncropped land during the summer to control weeds and allow storage of moisture in the soil for the growth of a later crop. A practice common in semiarid regions, where annual precipitation is not enough to produce a crop every year. Summer fallow is frequently practiced before planting winter grain.
- Summit.** The topographically highest position of a hillslope. It has a nearly level (planar or only slightly convex) surface.
- Surface layer.** The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, ranging in depth from 4 to 10 inches (10 to 25 centimeters). Frequently designated as the "plow layer," or the "Ap horizon."

Surface soil. The A, E, AB, and EB horizons, considered collectively. It includes all subdivisions of these horizons.

- Talus.** Fragments of rock and other soil material accumulated by gravity at the foot of cliffs or steep slopes.
- Taxadjuncts.** Soils that cannot be classified in a series recognized in the classification system. Such soils are named for a series they strongly resemble and are designated as taxadjuncts to that series because they differ in ways too small to be of consequence in interpreting their use and behavior. Soils are recognized as taxadjuncts only when one or more of their characteristics are slightly outside the range defined for the family of the series for which the soils are named.
- Terminal moraine.** A belt of thick glacial drift that generally marks the termination of important glacial advances.
- Terrace.** An embankment, or ridge, constructed across sloping soils on the contour or at a slight angle to the contour. The terrace intercepts surface runoff so that water soaks into the soil or flows slowly to a prepared outlet. A terrace in a field generally is built so that the field can be farmed. A terrace intended mainly for drainage has a deep channel that is maintained in permanent sod.
- Terrace (geologic).** An old alluvial plain, ordinarily flat or undulating, bordering a river, a lake, or the sea.
- Texture, soil.** The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand*, *loamy sand*, *sandy loam*, *loam*, *silt loam*, *silt*, *sandy clay loam*, *clay loam*, *silty clay loam*, *sandy clay*, *silty clay*, and *clay*. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."
- Thin layer (in tables).** Otherwise suitable soil material that is too thin for the specified use.
- Till plain.** An extensive area of nearly level to undulating soils underlain by glacial till.
- Tilth, soil.** The physical condition of the soil as related to tillage, seedbed preparation, seedling emergence, and root penetration.
- Toeslope.** The position that forms the gently inclined surface at the base of a hillslope. Toeslopes in profile are commonly gentle and linear and are constructional surfaces forming the lower part of a hillslope continuum that grades to valley or closed-depression floors.
- Topsoil.** The upper part of the soil, which is the most favorable material for plant growth. It is ordinarily rich

in organic matter and is used to topdress roadbanks, lawns, and land affected by mining.

Trace elements. Chemical elements, for example, zinc, cobalt, manganese, copper, and iron, in soils in extremely small amounts. They are essential to plant growth.

Tuff. A compacted deposit that is 50 percent or more volcanic ash and dust.

Upland. Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Valley fill. In glaciated regions, material deposited in stream valleys by glacial meltwater. In nonglaciated regions, alluvium deposited by heavily loaded streams.

Variation. Refers to patterns of contrasting colors assumed to be inherited from the parent material rather than to be the result of poor drainage.

Varve. A sedimentary layer or a lamina or sequence of laminae deposited in a body of still water within a year. Specifically, a thin pair of graded glaciolacustrine layers seasonally deposited, usually by meltwater streams, in a glacial lake or other body of still water in front of a glacier.

Water bars. Smooth, shallow ditches or depressional areas that are excavated at an angle across a sloping road. They are used to reduce the downward velocity of water and divert it off and away from the road surface. Water bars can easily be driven over if constructed properly.

Weathering. All physical and chemical changes produced in rocks or other deposits at or near the earth's surface by atmospheric agents. These changes result in disintegration and decomposition of the material.

Well graded. Refers to soil material consisting of coarse grained particles that are well distributed over a wide range in size or diameter. Such soil normally can be easily increased in density and bearing properties by compaction. Contrasts with poorly graded soil.

Wilting point (or permanent wilting point). The moisture content of soil, on an oven-dry basis, at which a plant (specifically a sunflower) wilts so much that it does not recover when placed in a humid, dark chamber.

Windthrow. The uprooting and tipping over of trees by the wind.

TABLES

TABLE 1.--Temperature and Precipitation
(Recorded in the period 1971-2000 at Cedarville, California)

Month	Temperature (Degrees F.)						Precipitation (Inches)				
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than	Minimum temperature less than	Average number of growing degree days*	Average	2 years in 10 will have-- less than	2 years in 10 will have-- more than	Average number of days with 0.01 inch or more	Average snow fall
January	39.5	20.0	29.7	58	-4	11	1.84	0.54	3.08	4	5.6
February	44.0	24.0	34.0	63	0	26	1.42	0.64	2.00	4	3.8
March	50.1	28.7	39.4	69	10	82	1.58	0.91	2.10	4	3.1
April	56.9	33.3	45.1	79	19	193	1.16	0.58	1.68	4	1.3
May	65.9	40.0	52.9	88	25	402	1.16	0.40	1.91	3	0.3
June	76.1	47.3	61.7	95	32	644	0.67	0.17	1.06	1	0.0
July	85.7	53.8	69.8	99	39	920	0.29	0.00	0.47	1	0.0
August	85.1	52.0	68.6	99	38	883	0.38	0.03	0.62	1	0.0
September	76.9	43.4	60.2	93	29	603	0.61	0.00	1.13	1	0.0
October	64.9	34.3	49.6	85	18	317	0.86	0.29	1.31	2	0.2
November	48.3	26.2	37.2	70	6	64	1.65	0.73	2.44	5	2.1
December	40.3	20.0	30.1	58	-6	13	1.54	0.49	2.45	4	4.0
Yearly:											
Average	61.1	35.3	48.2	---	---	---	---	---	---	---	---
Extreme	102	-28	---	100	-11	---	---	---	---	---	---
Total	---	---	---	---	---	4,159	13.16	10.01	16.03	34	20.5

Average number of days per year with at least 1 inch of snow on the ground: 15

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 40.0 degrees F.)

TABLE 1.—Temperature and Precipitation
(Recorded in the period 1971-2000 at Gerlach, Nevada)

Month	Temperature (Degrees F.)					Precipitation (Inches)					
	Average daily maximum	Average daily minimum	Average daily	Maximum temperature higher than	Minimum temperature less than	2 years in 10 will have-- Average number of growing degree days*	Average	2 years in 10 will have-- less than	more than	Average number of days with 0.01 inch or more	Average snow fall
January	40.5	22.0	31.3	62	0	18	1.02	0.22	1.65	3	4.5
February	46.8	26.0	36.4	66	2	44	0.70	0.32	0.96	2	1.8
March	56.3	31.7	44.0	74	16	158	0.75	0.35	1.13	2	0.7
April	63.8	36.7	50.3	83	21	314	0.78	0.22	1.35	2	0.2
May	71.5	44.6	58.1	92	30	548	1.28	0.29	2.23	3	0.0
June	80.6	52.2	66.4	97	36	789	0.82	0.13	1.44	2	0.0
July	89.2	58.5	73.9	102	44	1,045	0.38	0.00	0.60	1	0.0
August	88.7	56.9	72.8	100	44	1,018	0.30	0.01	0.55	0	0.0
September	79.0	47.6	63.3	95	33	692	0.43	0.06	0.70	1	0.0
October	67.6	37.0	52.3	86	16	383	0.37	0.04	0.66	1	0.0
November	50.7	26.3	38.5	69	7	72	0.87	0.25	1.24	2	1.0
December	39.3	18.5	28.9	60	-8	14	0.68	0.14	1.12	2	3.4
Yearly :											
Average	64.5	38.2	51.3	---	---	---	---	---	---	---	---
Extreme	107	-30	---	102	-11	---	---	---	---	---	---
Total	---	---	---	---	---	5,095	8.36	5.03	10.09	21	11.7

Average number of days per year with at least 1 inch of snow on the ground: 4

*A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (Threshold: 40.0 degrees F.)

TABLE 2.--FREEZE DATES IN SPRING AND FALL
(Recorded in the period 1961-90 at Cedarville, California)

Probability	Temperature		
	24 degrees F. or lower	28 degrees F. or lower	32 degrees F. or lower
Last freezing temperature in spring:			
1 year in 10 later than--	May 15	May 22	June 11
2 years in 10 later than--	May 5	May 17	June 5
5 years in 10 later than--	April 17	May 7	May 25
First freezing temperature in fall:			
1 year in 10 earlier than--	September 30	September 22	September 11
2 years in 10 earlier than--	October 8	September 28	September 17
5 years in 10 earlier than--	October 23	October 10	September 28

TABLE 2.--FREEZE DATES IN SPRING AND FALL
(Recorded in the period 1961-90 at Gerlach, California)

Probability	Temperature		
	24 degrees F. or lower	28 degrees F. or lower	32 degrees F. or lower
Last freezing temperature in spring:			
1 year in 10 later than--	April 29	May 11	May 23
2 year in 10 later than--	April 20	May 6	May 17
5 year in 10 later than--	April 3	April 26	May 4
First freezing Temperature in fall:			
1 year in 10 earlier than--	October 11	September 22	September 11
2 years in 10 earlier than--	October 17	September 30	September 18
5 years in 10 earlier than--	October 28	October 15	October 2

TABLE 3.--GROWING SEASON
 (Recorded in the period 1971-00 at Cedarville, California)

Probability	Daily Minimum Temperature during growing season		
	Higher than 24 degrees F.	Higher than 28 degrees F.	Higher than 32 degrees F.
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	160	137	100
8 years in 10	171	144	108
5 years in 10	192	157	124
2 years in 10	213	170	140
1 year in 10	224	177	148

TABLE 3.--GROWING SEASON
 (Recorded in the period 1971-00 at Gerlach, California)

Probability	Daily Minimum Temperature during growing season		
	Higher than 24 degrees F.	Higher than 28 degrees F.	Higher than 32 degrees F.
	<u>Days</u>	<u>Days</u>	<u>Days</u>
9 years in 10	189	158	141
8 years in 10	198	167	149
5 years in 10	217	184	165
2 years in 10	236	201	182
1 year in 10	245	210	190

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

Map symbol	Soil name	Lassen County	Modoc County	Washoe County	Total	
					Area	Extent
					Acres	Pct
300	Anawalt-Ninemile association-----	1,981	---	---	1,981	0.4
301	Ashtre-Ashdos association-----	---	1,922	7,125	9,047	1.8
302	Ashtre-Ashdos-Tusune association-----	---	---	3,875	3,875	0.8
303	Ashtre-Bitner association-----	---	203	13,680	13,883	2.7
304	Ashtre-Crocac association-----	3,912	---	---	3,912	0.8
305	Ashtre-Nutzan-Ashdos association-----	---	2,185	17,788	19,973	3.9
306	Ashtre-Nutzan-Cavin association-----	---	---	5,473	5,473	1.1
307	Ashtre-Tusune-Brownsbowl association-----	598	---	---	598	0.1
308	Bicondoa clay-----	282	729	---	1,011	0.2
309	Bicondoa-Crutcher complex-----	133	589	---	722	0.1
310	Bidwell ashy loam, 0 to 2 percent slopes-----	---	5,700	---	5,700	1.1
311	Bidwell ashy loam, 2 to 5 percent slopes-----	---	2,923	---	2,923	0.6
312	Bitner-Ashcamp association-----	---	---	545	545	0.1
313	Bombadil-Brubeck association-----	---	13	1,227	1,240	0.2
314	Bombadil-Ceejay association-----	---	1,405	8,068	9,473	1.8
315	Bombadil-Chime association-----	---	1,277	---	1,277	0.2
316	Bombadil-Grassyacn association-----	---	---	4,449	4,449	0.9
317	Bombadil-Saraph association-----	---	---	387	387	*
318	Boulder Lake clay-----	26	71	1,009	1,106	0.2
319	Boulderfan ashy loam, 2 to 8 percent slopes--	522	551	---	1,073	0.2
320	Bregar extremely cobbly loam, 2 to 8 percent slopes-----	---	---	3,349	3,349	0.7
321	Bregar-Cavin-Brownsbowl association-----	---	---	7,052	7,052	1.4
322	Brownsbowl-Cowbell association-----	2,337	---	---	2,337	0.5
323	Brownsbowl-Hashwoods association-----	344	71	592	1,007	0.2
324	Brubeck-Diaz association-----	25	---	605	630	0.1
325	Bucklake-Bombadil-Reywat association-----	---	---	1,427	1,427	0.3
326	Bucklake-Fiddler association-----	---	---	3,922	3,922	0.8
327	Bucklake-Mcwatt-Rubble land association-----	310	1,595	815	2,720	0.5
328	Bucklake-Reywat association-----	---	331	2,936	3,267	0.6
329	Bucklake-Rock outcrop-Corral association-----	---	2,165	---	2,165	0.4
330	Bucklake-Softscrabble-Devada association-----	---	---	9,783	9,783	1.9
331	Buffaran-Fulstone association-----	---	---	4,164	4,164	0.8
332	Bullump very stony loam, 5 to 30 percent slopes-----	---	77	---	77	*
333	Buntingville ashy loam, 0 to 2 percent slopes	85	3,368	---	3,453	0.7
334	Buntingville ashy loam, 2 to 5 percent slopes	---	883	---	883	0.2
335	Cavin-Ashtre-Hutchley association-----	---	---	6,187	6,187	1.2
336	Cavin-Cowbell-Rubble land association-----	4,275	360	---	4,635	0.9
337	Cavin-Hutchley association-----	---	---	2,090	2,090	0.4
338	Cavin-Nutzan-Snag association-----	6,366	---	---	6,366	1.2
339	Cavin-Nutzan-Tusune association-----	---	---	6,352	6,352	1.2
340	Chalco-Pickup association-----	---	---	1,443	1,443	0.3
341	Chalco-Rock outcrop-Pickup association-----	---	---	8,305	8,305	1.6
342	Chalco-Saraph-Tuffo association-----	46	---	24,334	24,380	4.7
343	Chalco-Verdico-Skedaddle association-----	---	---	713	713	0.1
344	Coppersmith-Bareranch association-----	1,852	---	548	2,400	0.5
345	Cormol-Bucklake-Devada association-----	156	---	9,290	9,446	1.8
346	Couch ashy fine sandy loam, 0 to 2 percent slopes-----	334	285	1,871	2,490	0.5
347	Couch ashy loam, 0 to 2 percent slopes-----	---	364	---	364	*
348	Couch ashy loam, clay substratum, 0 to 2 percent slopes-----	---	1,592	---	1,592	0.3
349	Couch-Jesayno association-----	---	5,639	7,646	13,285	2.6
350	Couch-Nevadash association-----	527	---	2,836	3,363	0.7
351	Cowbell-Brownsbowl association-----	4,023	---	---	4,023	0.8
352	Crazybird-Warnermount association-----	290	12,466	---	12,756	2.5
353	Crazybird-Welltomas association-----	---	4,741	---	4,741	0.9
354	Crutcher ashy very fine sandy loam-----	299	5,940	2,190	8,429	1.6
355	Crutcher-Isolde association-----	---	823	---	823	0.2
356	Cuminvar muck-----	114	223	---	337	*
357	Cuminvar muck, drained-----	202	551	---	753	0.1
358	Cummings ashy silty clay loam-----	---	643	---	643	0.1

See footnote at end of table.

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

Map symbol	Soil name	Lassen County	Modoc County	Washoe County	Total	
					Area	Extent
					Acres	Pct
359	Cummings mucky ashy silty clay loam-----	---	2,647	---	2,647	0.5
360	Dangvar ashy loam, 0 to 2 percent slopes-----	---	1,147	---	1,147	0.2
361	Dangvar ashy loam, drained, 2 to 5 percent slopes-----	---	224	---	224	*
362	Davey sandy loam, 2 to 4 percent slopes-----	---	---	1,424	1,424	0.3
363	Dawgbuffer-Rock outcrop association-----	861	603	---	1,464	0.3
364	Devada-Bieber association-----	---	4,141	---	4,141	0.8
365	Devada-Bucklake association-----	---	472	27,199	27,671	5.4
366	Devada-Bucklake-Softscrabble association-----	832	---	5,278	6,110	1.2
367	Devada-Dosie-Rubble land association-----	---	---	1,594	1,594	0.3
368	Devada-Dosie-Softscrabble association-----	780	---	11,401	12,181	2.4
369	Devada-Hart Camp-Tunnison association-----	---	803	2,111	2,914	0.6
370	Devada-Nitpac-Uhaldi association-----	---	---	596	596	0.1
371	Devada-Reywat association-----	---	---	6,849	6,849	1.3
372	Devada-Reywat-Bitner association-----	---	---	16,220	16,220	3.1
373	Devada-Reywat-Rock outcrop association-----	---	163	3,464	3,627	0.7
374	Devada-Reywat-Rubble land association-----	---	---	6,275	6,275	1.2
375	Devada-Rock outcrop complex, 4 to 15 percent slopes-----	---	---	11,474	11,474	2.2
376	Devada-Rock outcrop-Softscrabble association-----	---	---	2,546	2,546	0.5
377	Devada-Tuledad association-----	---	---	926	926	0.2
378	Devada-Tuledad-Softscrabble association-----	---	---	1,365	1,365	0.3
379	Dismalswamp ashy loams, 0 to 8 percent slopes-----	174	388	---	562	0.1
380	Donica gravelly ashy sandy loam, 2 to 5 percent slopes-----	---	1,047	---	1,047	0.2
381	Donica gravelly ashy sandy loam, 15 to 30 percent slopes-----	17	2,188	---	2,205	0.4
382	Donica gravelly ashy sandy loam, 30 to 50 percent slopes-----	---	1,021	---	1,021	0.2
383	Donica very gravelly ashy sandy loam, 5 to 30 percent slopes-----	---	1,691	---	1,691	0.3
384	Donica very stony ashy sandy loam, 2 to 15 percent slopes-----	---	4,437	---	4,437	0.9
385	Donica-Surprise gravelly ashy sandy loams, 5 to 15 percent slopes-----	---	2,894	---	2,894	0.6
386	Dosie-Cormol association-----	2,751	---	1,695	4,446	0.9
387	Dosie-Fiddler-Rubble land association-----	---	845	2,230	3,075	0.6
388	Dosie-Rubble land association-----	3,096	14	9,539	12,649	2.5
389	Dosie-Softscrabble association-----	17	---	3,026	3,043	0.6
390	Emagert ashy loam-----	---	102	1,281	1,383	0.3
391	Emagert-Wetvit association-----	---	291	753	1,044	0.2
392	Emamount-Grimlake association-----	---	---	367	367	*
393	Esmod very gravelly fine sandy loam, 2 to 8 percent slopes-----	---	---	3,287	3,287	0.6
394	Esmod-Hangrock association-----	---	---	10,214	10,214	2.0
395	Esmod-Powlow association-----	---	---	10,588	10,588	2.1
396	Ferver very cobbly sandy loam, 2 to 8 percent slopes-----	---	1,461	3,008	4,469	0.9
397	Ferver-Tunnison association-----	---	13,137	---	13,137	2.6
398	Fitzwater-Westbutte association-----	---	51	---	51	*
399	Fluvaquents-Riverwash complex, 2 to 8 percent slopes-----	---	559	---	559	0.1
400	Four Star ashy loam-----	121	2,816	---	2,937	0.6
401	Four Star ashy loam, clay substratum-----	---	193	---	193	*
402	Four Star ashy loam, cold-----	262	---	---	262	*
403	Four Star ashy loam, seeped-----	---	622	---	622	0.1
404	Freznik very stony loam, 2 to 15 percent slopes-----	---	422	---	422	*
405	Fulstone-Nellspring-Buffaran association-----	---	---	5,446	5,446	1.1
406	Fulstone-Saraph-Tuffo association-----	---	---	245	245	*
407	Gozell-Old Camp association-----	---	2,045	6,406	8,451	1.6
408	Gozell-Saraph association-----	---	157	2,812	2,969	0.6
409	Grassycaan association-----	---	---	7,811	7,811	1.5
410	Grassycaan-Rock outcrop complex, 0 to 8 percent slopes-----	---	---	3,381	3,381	0.7
411	Gurlidawg extremely gravelly ashy sandy loam, 4 to 30 percent slopes-----	---	1,018	---	1,018	0.2
412	Gurlidawg very gravelly ashy sandy loam, 30 to 50 percent slopes-----	---	816	---	816	0.2

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

Map symbol	Soil name	Lassen County	Modoc County	Washoe County	Total	
					Area	Extent
					Acres	Pct
413	Gurlidawg very gravelly ashy sandy loam, 4 to 30 percent slopes-----	1,331	2,133	---	3,464	0.7
414	Gurlidawg very gravelly ashy sandy loam, cool, 4 to 30 percent slopes-----	104	1,285	---	1,389	0.3
415	Halvert-Jaybee-Tunnison association-----	---	4,690	---	4,690	0.9
416	Hangrock very gravelly ashy loam, 2 to 8 percent slopes-----	---	---	10,329	10,329	2.0
417	Harskel-Brownsbowl-Cowbell association-----	804	---	138	942	0.2
418	Harskel-Menbo association-----	5,459	---	---	5,459	1.1
419	Harskel-Ninemile-Cowbell association-----	2,075	---	486	2,561	0.5
420	Hart Camp-Menbo association-----	285	---	4,275	4,560	0.9
421	Hart Camp-Ninemile association-----	---	---	2,913	2,913	0.6
422	Hart Camp-Runyon-Ashtre association-----	---	---	5,427	5,427	1.1
423	Hart Camp-Softscrabble association-----	---	72	761	833	0.2
424	Hartner-Rock Outcrop-Sesdah complex, 30 to 99 percent slopes-----	---	9,674	---	9,674	1.9
425	Home Camp-Runyon association-----	232	---	958	1,190	0.2
426	Hovey silty clay loam-----	---	5,759	---	5,759	1.1
427	Hussa ashy clay loam, 0 to 2 percent slopes-----	128	3,945	---	4,073	0.8
428	Hussa ashy clay loam, clay substratum, 0 to 2 percent slopes-----	---	7,100	---	7,100	1.4
429	Hussa ashy loam, clay substratum, drained, 0 to 2 percent slopes-----	---	703	---	703	0.1
430	Hussa ashy loam, drained, 0 to 2 percent slopes-----	---	1,607	---	1,607	0.3
431	Hussa ashy loam, drained, 2 to 5 percent slopes-----	---	1,551	---	1,551	0.3
432	Hussa ashy loam, slightly saline-alkali, 0 to 2 percent slopes-----	---	859	---	859	0.2
433	Hussa ashy silty clay loam, seeped, 0 to 9 percent slopes-----	---	1,079	---	1,079	0.2
434	Hussa ashy silty clay loam, seeped, cold, 0 to 9 percent slopes-----	573	---	---	573	0.1
435	Hussa-Couch ashy loams, 0 to 2 percent slopes-----	---	836	---	836	0.2
436	Hutchley-Ashtre association-----	---	929	3,250	4,179	0.8
437	Hutchley-Cavin-Brownsbowl association-----	---	615	3,665	4,280	0.8
438	Hutchley-Cavin-Zorromount association-----	---	---	2,782	2,782	0.5
439	Hutchley-Mosquet-Brownsbowl association-----	---	551	2,552	3,103	0.6
440	Hutchley-Ninemile-Nutzan association-----	---	---	11,457	11,457	2.2
441	Hutchley-Softscrabble association-----	---	---	1,937	1,937	0.4
442	Indian Creek-Buffaran association-----	256	---	162	418	*
443	Jaybee-Verdico association-----	---	1,452	---	1,452	0.3
444	Keddie loam, 0 to 2 percent slopes-----	706	199	---	905	0.2
445	Leviathan very gravelly loam, 2 to 8 percent slopes-----	---	---	478	478	*
446	Lolak silty clay-----	---	2,549	---	2,549	0.5
447	Longdis-Dugway association-----	---	---	966	966	0.2
448	Longval gravelly ashy fine sandy loam, 4 to 30 percent slopes-----	2,718	152	---	2,870	0.6
449	Lotawaca very gravelly ashy sandy loam, 30 to 50 percent slopes-----	---	1,677	---	1,677	0.3
450	Lotawaca very gravelly ashy sandy loam, 4 to 30 percent slopes-----	---	2,873	---	2,873	0.6
451	Lyonman gravelly ashy sandy loam, 30 to 50 percent slopes-----	1,286	7,389	---	8,675	1.7
452	Lyonman gravelly ashy sandy loam, 4 to 30 percent slopes-----	188	9,328	---	9,516	1.8
453	Lyonman gravelly ashy sandy loam, cool, 30 to 50 percent slopes-----	3,120	538	---	3,658	0.7
454	Lyonman gravelly ashy sandy loam, cool, 4 to 30 percent slopes-----	5,612	4,328	---	9,940	1.9
455	Macnot very gravelly ashy fine sandy loam, 2 to 8 percent slopes-----	---	678	---	678	0.1
456	Macnot-Glasshawk associtaion-----	---	---	4,024	4,024	0.8
457	Macnot-Gorzell association-----	---	---	809	809	0.2
458	Macnot-Jesayno-Nevadash association-----	24	599	17,860	18,483	3.6
459	Macnot-Mcwatt-Old Camp association-----	---	5,457	---	5,457	1.1
460	Macnot-Nomazu complex-----	---	6,923	4,259	11,182	2.2
461	Madeline-Sumine association-----	951	---	---	951	0.2
462	Mazuma-Bighat association-----	---	4,451	8,947	13,398	2.6

See footnote at end of table.

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

Map symbol	Soil name	Lassen County	Modoc County	Washoe County	Total	
					Area	Extent
		Acres	Acres	Acres	Acres	Pct
463	Mcwatt-Old Camp association-----	---	---	4,303	4,303	0.8
464	Mcwatt-Skedaddle association-----	---	---	8,449	8,449	1.6
465	Medved gravelly sandy loam, 4 to 15 percent slopes-----	---	---	1,030	1,030	0.2
466	Menbo-Softscrabble-Badgercamp association----	---	---	766	766	0.1
467	Nevadash ashy fine sandy loam, 0 to 2 percent slopes-----	---	372	---	372	*
468	Nevadash ashy fine sandy loam, 2 to 5 percent slopes-----	---	367	---	367	*
469	Nevadash ashy loamy fine sand, 0 to 2 percent slopes-----	---	584	---	584	0.1
470	Nevadash-Couch association-----	1,058	---	4,705	5,763	1.1
471	Nevadash-Gorzell association-----	---	29	2,877	2,906	0.6
472	Nevadash-Jesayno association-----	---	276	2,881	3,157	0.6
473	Nevadash-Saraph association-----	---	---	1,189	1,189	0.2
474	Newlands-Menbo association-----	---	---	142	142	*
475	Ninemile-Hutchley-Crocac association-----	1,491	---	---	1,491	0.3
476	Ninemile-Karlo-Crocac association-----	4,602	---	12,284	16,886	3.3
477	Ninemile-Madeline-Crocac association-----	3,360	---	---	3,360	0.7
478	Ninemile-Madeline-Softscrabble association----	---	599	4,809	5,408	1.0
479	Ninemile-Madeline-Tinpan association-----	---	---	5,552	5,552	1.1
480	Ninemile-Softscrabble-Crocac association-----	1,761	---	---	1,761	0.3
481	Ninemile-Westbutte-Softscrabble association----	---	---	695	695	0.1
482	Nitpac-Tunnison-Bidrim association-----	---	---	963	963	0.2
483	Nitpac-Tunnison-Devada association-----	4,384	1,897	8,692	14,973	2.9
484	Nomazu-Macnot association-----	---	---	1,953	1,953	0.4
485	Nomazu-Ragtown association-----	---	---	588	588	0.1
486	Nopeg-Pegler association-----	---	38	6,243	6,281	1.2
487	Nowack very gravelly ashy loam, 30 to 50 percent slopes-----	398	5,401	---	5,799	1.1
488	Nowack very gravelly ashy loam, 4 to 30 percent slopes-----	202	1,855	---	2,057	0.4
489	Nowack-Fendersflat association-----	72	1,554	---	1,626	0.3
490	Nutzan-Cavin-Ashtre association-----	---	---	4,685	4,685	0.9
491	Nutzan-Hutchley-Tusune association-----	---	---	10,336	10,336	2.0
492	Nutzan-Tusune-Ashtre association-----	---	---	822	822	0.2
493	Observation-Searles-Madeline association-----	45	---	---	45	*
494	Old Camp gravelly loam, 8 to 30 percent slopes-----	---	1,184	10	1,194	0.2
495	Old Camp very gravelly loam, 4 to 15 percent slopes-----	817	---	---	817	0.2
496	Old Camp very stony loam, 4 to 15 percent slopes-----	---	318	17,013	17,331	3.4
497	Old Camp-Ceejay association-----	---	1,578	8,201	9,779	1.9
498	Old Camp-Gorzell-Macnot association-----	---	5,454	3,268	8,722	1.7
499	Old Camp-Mcwatt association-----	---	---	5,860	5,860	1.1
500	Old Camp-Reywat-Rubble land association-----	---	---	3,001	3,001	0.6
501	Old Camp-Saraph association-----	---	3,112	3,778	6,890	1.3
502	Old Camp-Skedaddle association-----	---	---	1,601	1,601	0.3
503	Paynepeak gravelly ashy loam, 4 to 30 percent slopes-----	338	2,863	---	3,201	0.6
504	Paynepeak, steep-Skidbrackle association-----	---	667	---	667	0.1
505	Paynepeak-Fendersflat association-----	8,820	2,718	---	11,538	2.2
506	Paynepeak-Fendersflat, cool association-----	1,042	3,902	---	4,944	1.0
507	Paynepeak-Fendersflat, south aspect association-----	---	3,169	---	3,169	0.6
508	Paynepeak-Fendersflat-Pyropatti association----	9,386	2,089	---	11,475	2.2
509	Paynepeak-Fingeridge association-----	---	2,902	---	2,902	0.6
520	Paynepeak-Pyropatti-Fingeridge association----	---	2,618	---	2,618	0.5
521	Paynepeak-Skidbrackle association-----	---	5,093	---	5,093	1.0
522	Paypoint-Langston association-----	---	---	5,586	5,586	1.1
523	Pickup-Bucklake association-----	---	---	5,734	5,734	1.1
524	Pickup-Nosavvy-Skedaddle association-----	---	---	1,242	1,242	0.2
525	Pits, gravel-----	---	13	---	13	*
526	Pits-Dumps complex-----	---	---	421	421	*
527	Playas-----	---	13,927	41	13,968	2.7
528	Pyropatti gravelly ashy loams, 2 to 30 percent slopes-----	370	1,793	---	2,163	0.4
529	Raglan very fine sandy loam, alkali, 0 to 2 percent slopes-----	---	564	---	564	0.1

See footnote at end of table.

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

Map symbol	Soil name	Lassen County	Modoc County	Washoe County	Total	
					Area	Extent
		Acres	Acres	Acres	Acres	Pct
530	Raglan-Crutchter complex, 0 to 4 percent slopes-----	---	2,552	---	2,552	0.5
531	Raglan-Isolde association-----	45	2,506	1,797	4,348	0.8
532	Raglan-Mazuma association-----	---	10,940	1,215	12,155	2.4
533	Redhome-Cowbell association-----	3,259	---	---	3,259	0.6
534	Redhome-Softscrabble association-----	---	---	3,449	3,449	0.7
535	Reywat cobbly loam, 4 to 15 percent slopes----	5	---	762	767	0.1
536	Reywat very stony loam, 8 to 30 percent slopes-----	---	---	451	451	*
537	Reywat-Devada association-----	---	---	5,536	5,536	1.1
538	Reywat-Fernpoint association-----	---	---	139	139	*
539	Reywat-Marepas association-----	---	---	6,739	6,739	1.3
540	Reywat-Rock outcrop-Marepas association-----	---	---	3,504	3,504	0.7
541	Rock outcrop-Rubble land complex, 30 to 70 percent slopes-----	59	---	---	59	*
542	Rodock gravelly sandy loam, 0 to 2 percent slopes-----	---	---	109	109	*
543	Rubble land-Dosie-Menbo association-----	---	---	1,505	1,505	0.3
544	Rubble land-Home Camp complex, 30 to 75 percent slopes-----	1,012	114	---	1,126	0.2
545	Rubble land-Paynepeak complex, 15 to 50 percent slopes-----	---	195	---	195	*
546	Runyon-Hapgood association-----	4,019	---	---	4,019	0.8
547	Saltmount silty clay loams, 0 to 30 percent slopes-----	---	17,516	2,750	20,266	3.9
548	Saraph-Ashcamp-Bitner association-----	---	---	1,679	1,679	0.3
549	Saraph-Bombadil-Macnot association-----	---	2,841	5,049	7,890	1.5
550	Saraph-Chalco association-----	1,376	---	1,009	2,385	0.5
551	Saraph-Chalco-Bombadil association-----	---	---	5,326	5,326	1.0
552	Saraph-Hangrock-Tuffo association-----	---	---	732	732	0.1
553	Saraph-Macnot-Tuffo association-----	---	---	15,652	15,652	3.0
554	Saraph-Nosavvy-Tuffo association-----	---	---	7,108	7,108	1.4
555	Saraph-Old Camp-Skedaddle association-----	---	---	531	531	0.1
556	Saraph-Tuffo-Old Camp association-----	---	---	6,648	6,648	1.3
557	Saraph-Tuffo-Yellowhills association-----	---	---	2,946	2,946	0.6
558	Schamp loam, 4 to 15 percent slopes-----	---	1,184	150	1,334	0.3
559	Schamp stony loam, 30 to 50 percent slopes----	---	165	462	627	0.1
560	Sedsked-Skedaddle association-----	---	---	2,092	2,092	0.4
561	Simpson gravelly ashy sandy loam, 5 to 15 percent slopes-----	---	1,860	---	1,860	0.4
562	Simpson ashy loam, 0 to 2 percent slopes-----	---	421	---	421	*
563	Simpson ashy sandy loam, 2 to 5 percent slopes-----	---	2,495	---	2,495	0.5
564	Skullwak silt loam, 0 to 2 percent slopes----	---	232	567	799	0.2
565	Snag-Brownsbowl-Hashwoods association-----	---	---	3,908	3,908	0.8
566	Softscrabble very cobbly loam, 4 to 15 percent slopes-----	1,535	---	---	1,535	0.3
567	Softscrabble-Dosie-Hutchley association-----	---	---	183	183	*
568	Softscrabble-Hart Camp association-----	---	793	5,053	5,846	1.1
569	Softscrabble-Sumine-Hutchley association-----	---	---	2,620	2,620	0.5
570	Soughe-Rock outcrop complex, 30 to 50 percent slopes-----	---	---	1,662	1,662	0.3
571	Soughe-Rock outcrop complex, 4 to 30 percent slopes-----	---	---	2,419	2,419	0.5
572	Steerlake-Reywat association-----	1,244	---	792	2,036	0.4
573	Steerlake-Wylo association-----	---	89	1,100	1,189	0.2
574	Surprise gravelly ashy sandy loam, 0 to 2 percent slopes-----	---	968	---	968	0.2
575	Surprise gravelly ashy sandy loam, 2 to 5 percent slopes-----	---	8,831	---	8,831	1.7
576	Tuledad-Nitpac-Bidrim association-----	---	---	5,026	5,026	1.0
577	Tunnison-Devada-Bidrim association-----	310	---	2,501	2,811	0.5
578	Tunnison-Tuledad complex, 0 to 8 percent slopes-----	---	---	7,686	7,686	1.5
579	Tusune-Hartig association-----	---	---	1,241	1,241	0.2
580	Urdike-Longdis association-----	---	---	997	997	0.2
581	Urdike-Mazuma association-----	---	---	316	316	*
582	Valmy fine sandy loam, 2 to 8 percent slopes----	233	738	491	1,462	0.3
583	Warnermount gravelly ashy loam, 4 to 15 percent slopes-----	828	1,554	---	2,382	0.5

See footnote at end of table.

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

Map symbol	Soil name	Lassen County	Modoc County	Washoe County	Total	
					Area	Extent
		Acres	Acres	Acres	Acres	Pct
584	Warnermount-Burningman association-----	---	6,704	---	6,704	1.3
585	Warnermount-Crazybird association-----	1,124	7,399	---	8,523	1.7
587	Weezweed-Emagert-Wetvit association-----	455	---	3,729	4,184	0.8
588	Weimer clay-----	396	1,337	6,147	7,880	1.5
589	Weimer-Boulder Lake association-----	---	195	5	200	*
590	Weimer-Grimlake association-----	976	---	218	1,194	0.2
591	Welch clay loam, 0 to 4 percent slopes-----	---	313	---	313	*
592	Welltomas-Hartner-Rock outcrop association---	---	917	---	917	0.2
593	Wylo-Bucklake-Rock outcrop association-----	---	---	23,585	23,585	4.6
594	Wylo-Chalco association-----	---	---	2,944	2,944	0.6
595	Wylo-Pickup association-----	---	---	3,859	3,859	0.7
596	Wylo-Pickup-Bucklake association-----	---	---	1,072	1,072	0.2
597	Wylo-Pickup-Ceejay association-----	---	---	2,343	2,343	0.5
598	Wylo-Rock outcrop association-----	---	---	4,881	4,881	0.9
600	Zorravista fine sand, 4 to 15 percent slopes-	10	1,583	379	1,972	0.4
601	Zorravista-Davey-Isolde asociation-----	---	1,435	2,432	3,867	0.8
602	Zorromount-Hutchley association-----	---	---	4,804	4,804	0.9
603	Zymans-Cotant-Hart Camp association-----	---	---	116	116	*
999	Water-----	1,100	52,312	768	54,180	10.5
	Total-----	119,934	395,206	742,226	1,257,366	100

* Less than 0.1 percent.

TABLE 5.--Irrigated Yields by Map Unit Component

(Yields are those that can be expected under a high level of management. They are for irrigated areas. Absence of a yield indicates that the soil is not suited to the crop or the crop generally is not grown on the soil.)

Map symbol and soil name	Land capability	Alfalfa hay	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	AUM
310: Bidwell-----	3s	6.50	---	4.00	10.00
311: Bidwell-----	3e	6.00	---	4.00	10.00
333: Buntingville-----	3w	---	---	4.50	11.30
334: Buntingville-----	3e	4.40	---	4.50	11.50
350: Nevadash-----	2e	6.00	---	---	---
358: Cummings-----	6w	5.50	2.50	---	3.00
362: Davey-----	3e	5.00	---	---	---
380: Donica-----	3e	4.80	---	4.00	10.00
385: Donica-----	3e	4.80	---	4.00	10.00
400: Four Star-----	3w	3.00	3.00	3.00	---
402: Four Star-----	3w	3.00	3.00	3.00	---
403: Four Star-----	6w	3.00	3.00	3.00	---
426: Hovey-----	3w	3.00	---	---	5.00
427: Hussa-----	3w	5.50	2.50	---	3.00
428: Hussa-----	3w	---	5.50	---	---
429: Hussa-----	3w	---	5.50	---	---
430: Hussa-----	3w	5.50	2.50	---	3.00
431: Hussa-----	3w	5.50	2.50	---	3.00
432: Hussa-----	3w	---	2.50	---	5.00
433: Hussa-----	6w	5.50	2.50	---	3.00
434: Hussa-----	6w	5.50	2.50	---	3.00

TABLE 5.--Irrigated Yields by Map Unit Component

Map symbol and soil name	Land capability	Alfalfa hay	Grass hay	Grass-legume hay	Pasture
		Tons	Tons	Tons	AUM
435: Hussa-----	3w	5.50	2.50	---	3.00
444: Keddie-----	4	---	---	---	8.00
458: Nevadash-----	2e	6.00	---	---	---
467: Nevadash-----	2e	6.00	---	---	---
468: Nevadash-----	2e	6.00	---	---	---
469: Nevadash-----	2e	6.00	---	---	---
470: Nevadash-----	2e	6.00	---	---	---
471: Nevadash-----	2e	6.00	---	---	---
472: Nevadash-----	2e	6.00	---	---	---
542: Rodock-----	3s	5.00	---	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

(Only the soils that support rangeland vegetation suitable for grazing are rated.)

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
300: Anawalt-----	Shallow Stony Loam 12-16"	1,000	700	500	bluebunch wheatgrass----- Idaho fescue----- Thurber's needlegrass----- Sandberg bluegrass----- low sagebrush----- antelope bitterbrush-----	40 15 15 10 10 5
Ninemile-----	Shallow Stony Loam 12-16"	1,000	700	400	Idaho fescue----- low sagebrush----- bluebunch wheatgrass----- bluegrass----- Thurber's needlegrass----- antelope bitterbrush----- balsamroot----- bottlebrush squirreltail-----	35 20 15 10 5 5 5 5
Puls-----	Shallow Stony Loam 12-16"	1,000	700	500	bluebunch wheatgrass----- Idaho fescue----- Thurber's needlegrass----- bluegrass----- low sagebrush----- antelope bitterbrush-----	40 15 15 10 10 5
Madeline-----	Stony Loam 12-16"	1,800	1,400	1,000	bluebunch wheatgrass----- Idaho fescue----- Thurber's needlegrass----- antelope bitterbrush----- mountain big sagebrush-----	30 25 25 10 5
Tunnison-----	Shallow Clay 9-16"	900	700	500	bottlebrush squirreltail----- western wheatgrass----- Thurber's needlegrass----- beardless wildrye----- big sagebrush----- littleleaf horsebrush----- rubber rabbitbrush-----	25 15 10 10 10 10 10
Indiano-----	Warm Stony Loam 12-16"	1,800	1,200	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- basin wildrye----- mountain big sagebrush-----	70 15 5 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Rock outcrop-----	---	---	---	---	---	---
Rubble land-----	---	---	---	---	---	---
301:						
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Ashdos-----	Ashy Claypan (cool) 10-14 P.z.	1,200	900	600	Idaho fescue-----	40
					needlegrass-----	15
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	15
					miscellaneous shrubs-----	5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass-----	35
					bluebunch wheatgrass-----	20
					Idaho fescue-----	15
					big sagebrush-----	15
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
302: Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue----- needlegrass----- bluebunch wheatgrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	40 10 5 5 5 10 5
Ashdos-----	Ashy Claypan (cool) 10-14 P.z.	1,200	900	600	Idaho fescue----- needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	40 15 5 10 15 5
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue----- Cusick's bluegrass----- bluebunch wheatgrass----- miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	50 15 10 5 10 5
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- basin wildrye----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 5 5 10 5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue----- needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush----- miscellaneous shrubs-----	40 20 5 5 10 10 5
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
303: Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue----- needlegrass----- bluebunch wheatgrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	40 10 5 5 5 5 10 5
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass----- bluebunch wheatgrass----- Idaho fescue----- big sagebrush----- antelope bitterbrush-----	35 20 15 15 5
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass----- bluebunch wheatgrass----- Idaho fescue----- big sagebrush----- antelope bitterbrush-----	35 20 15 15 5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue----- needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush----- miscellaneous shrubs-----	40 20 5 5 10 10 5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Ashdos-----	Ashy Claypan (cool) 10-14 P.z.	1,200	900	600	Idaho fescue----- needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	40 15 5 10 15 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
304: Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue----- needlegrass----- bluebunch wheatgrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	40 10 5 5 5 5 10 5
Crocan-----	---	500	300	200	---	---
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5
Redhome-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue----- needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush----- miscellaneous shrubs-----	40 20 5 5 10 10 5
Hashwoods-----	---	800	600	400	---	---
305: Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue----- needlegrass----- bluebunch wheatgrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	40 10 5 5 5 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Ashdos-----	Ashy Claypan (cool) 10-14 P.z.	1,200	900	600	Idaho fescue-----	40
					needlegrass-----	15
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	15
					miscellaneous shrubs-----	5
Rock outcrop-----	---	---	---	---	---	---
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue-----	50
					Cusick's bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
306: Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Ashdos-----	Ashy Claypan (cool) 10-14 P.z.	1,200	900	600	Idaho fescue-----	40
					needlegrass-----	15
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	15
					miscellaneous shrubs-----	5
307: Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue-----	50
					Cusick's bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
Rock outcrop-----	---	---	---	---	---	---
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
311: Bidwell-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Dangvar-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass----- Lemmon's alkaligrass----- inland saltgrass----- miscellaneous perennial grasses basin wildrye-----	40 30 10 10 5
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Buntingville-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass----- miscellaneous perennial grasses sedge----- miscellaneous perennial forbs--	45 20 15 15
312: Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass----- bluebunch wheatgrass----- Idaho fescue----- big sagebrush----- antelope bitterbrush-----	35 20 15 15 5
Ashcamp-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
313: Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Brubeck-----	Clayey 10-14 P.z.	800	600	350	thickspike wheatgrass-----	20
					bottlebrush squirreltail-----	15
					creeping wildrye-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					basin big sagebrush-----	20
					littleleaf horsebrush-----	5
					miscellaneous shrubs-----	5
					rubber rabbitbrush-----	5
Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
314: Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ferver-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Rock outcrop-----	---	---	---	---	---	---
315: Bombadil-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Chime-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Corral-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Schamp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
McConnel, occasionally flooded-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
316: Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Grassycan-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass----- Webber needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush-----	40 5 5 10 35
Ashcamp-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Fulstone-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5
317: Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Nomazu, non-saline surface-----	Silty 4-8 P.z.	500	350	200	Indian ricegrass-----	20
					bottlebrush squirreltail-----	5
					winterfat-----	60
					bud sagebrush-----	5
318: Boulder Lake-----	Clay Basin	1,800	1,500	1,000	Nevada bluegrass-----	45
					wildrye-----	15
					mat muhly-----	5
					miscellaneous perennial forbs--	10
					silver sagebrush-----	10
Weimer-----	Wet Clay Basin	1,500	400	0	other annual forbs-----	60
					miscellaneous perennial forbs--	10
					mat muhly-----	5
					miscellaneous perennial grasses	5
					povertyweed-----	5
Grimlake-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
Macyflet-----	Clay Plain	900	700	450	Cusick's bluegrass-----	25
					needlegrass-----	25
					basin wildrye-----	10
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					early sagebrush-----	20

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
319: Boulderfan-----	Moist Mountain Basin	1,400	1,200	800	needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- silver sagebrush----- roundleaf snowberry-----	35 10 10 30 5
Dismalswamp-----	Semi-Wet Meadow 16+ P.z.	4,000	3,000	2,000	Nebraska sedge----- tufted hairgrass----- sedge----- Baltic rush----- meadow barley----- miscellaneous perennial forbs-- silver sagebrush----- willow-----	20 20 10 5 5 15 5 5
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome----- needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs----- roundleaf snowberry-----	20 20 5 5 10 25 5 5
Dismalswamp-----	Wet Meadow 16+ P.z.	4,000	3,000	2,000	---	---
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome----- miscellaneous perennial forbs-- quaking aspen----- mountain big sagebrush----- roundleaf snowberry-----	15 10 55 5 5
320: Bregar-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass----- Webber needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 5 5 10 25
Tinpan-----	Cobbly Claypan 8-12 P.z.	500	375	250	bluebunch wheatgrass----- Thurber's needlegrass----- Webber needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	25 15 5 5 10 25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Karlo-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Marepas-----	---	600	450	300	---	---
321: Bregar-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5
Mosquet-----	Shallow Loam 14+ P.z.	800	600	400	Idaho fescue-----	45
					bluegrass-----	10
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue-----	50
					Cusick's bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
322: Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Hashwoods-----	---	800	600	400	---	---
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
323: Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Hashwoods-----	---	800	600	400	---	---
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Mosquet-----	Shallow Loam 14+ P.z.	800	600	400	Idaho fescue-----	45
					bluegrass-----	10
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	15
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
324: Brubeck-----	Clayey 10-14 P.z.	800	600	350	thickspike wheatgrass----- bottlebrush squirreltail----- creeping wildrye----- miscellaneous perennial grasses miscellaneous perennial forbs-- basin big sagebrush----- littleleaf horsebrush----- miscellaneous shrubs----- rubber rabbitbrush-----	20 15 5 5 10 20 5 5 5
Diaz-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Chalco-----	Shallow Calcareous Loam 8-12 P.z.	700	500	300	Thurber's needlegrass----- bluebunch wheatgrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- black sagebrush----- miscellaneous shrubs-----	20 20 5 10 25 5
Reywat-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15
325: Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
327: Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Mcwatt-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Rubble land-----	---	---	---	---	---	---
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Gorzell-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
328: Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10
329: Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Rock outcrop-----	---	---	---	---	---	---
Corral-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Histic Endoaquolls-----	Wet Meadow 14+ P.z.	3,000	2,200	1,500	tufted hairgrass-----	55
					bluegrass-----	5
					meadow barley-----	5
					miscellaneous perennial grasses	5
					rush-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
331: Buffaran-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Fulstone-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
332: Bullump-----	Loamy 14-18 Pz	1,500	1,200	900	Idaho fescue----- antelope bitterbrush----- bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- bluegrass----- mountain big sagebrush-----	40 15 15 5 5 5 5
Booth-----	Stony Claypan 14-20 Pz	1,000	800	300	Idaho fescue----- bluebunch wheatgrass----- Canby bluegrass----- bluegrass----- onespike oatgrass----- Hooker's balsamroot----- low sagebrush----- shrubby buckwheat-----	35 10 5 5 5 5 15 5
Bullump, steep-----	North Slopes 14-18 Pz	1,500	1,000	600	Idaho fescue----- Sandberg bluegrass----- bluebunch wheatgrass----- basin wildrye----- antelope bitterbrush----- mountain big sagebrush-----	50 10 10 5 10 5
Nuss-----	Rocky Ridges 14+ Pz	1,200	1,000	800	Idaho fescue----- skyline bluegrass----- basin wildrye----- western needlegrass----- curl-leaf mountain mahogany----- mountain big sagebrush----- ponderosa pine----- snowberry-----	50 10 5 5 10 10 5 5
Cumulic Haploxerolls----	Loamy Bottom 12-16 P.z.	2,200	1,700	1,200	basin wildrye----- miscellaneous perennial grasses wheatgrass----- miscellaneous perennial forbs-- mountain big sagebrush-----	50 10 10 10 10
333: Buntingville-----	---	---	---	---	---	---
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Four Star-----	---	---	---	---	---	---
Bicondoa-----	---	---	---	---	---	---
Hussa-----	---	---	---	---	---	---
Fluvaquents-----	---	3,000	2,200	1,500	---	---
334: Buntingville-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
Bidwell-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Hussa-----	---	---	---	---	---	---
Dangvar-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
335: Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass-----	35
					bluebunch wheatgrass-----	20
					Idaho fescue-----	15
					big sagebrush-----	15
					antelope bitterbrush-----	5
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
336: Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5
Rubble land-----	---	---	---	---	---	---
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue----- mountain brome----- needlegrass----- melic----- miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	15 15 15 5 15 15 5
Hashwoods-----	---	800	600	400	---	---
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome----- needlegrass----- Idaho fescue----- basin wildrye----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs----- snowberry-----	25 15 5 5 5 5 10 10 5 5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue----- needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush----- miscellaneous shrubs-----	40 20 5 5 10 10 5
337: Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- Cusick's bluegrass----- miscellaneous perennial forbs-- mountain big sagebrush-----	25 10 10 5 10 25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
miscellaneous shrubs-----	5					
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
338: Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
bluebunch wheatgrass-----					10	
needlegrass-----					10	
Cusick's bluegrass-----					5	
miscellaneous perennial forbs--					10	
mountain big sagebrush-----					25	

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Hashwoods-----	---	800	600	400	---	---
339: Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue-----	50
					Cusick's bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Rock outcrop-----	---	---	---	---	---	---
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
340: Chalco-----	South Slope 8-12 P.z.	500	300	150	bluebunch wheatgrass-----	20
					desert needlegrass-----	20
					Wyoming big sagebrush-----	25
					miscellaneous shrubs-----	15
					purple sage-----	10
					green ephedra-----	5
Chalco-----	Claypan 8-10 P.z.	400	300	200	Thurber's needlegrass-----	25
					Sandberg bluegrass-----	10
					Indian ricegrass-----	5
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	30
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Rock outcrop-----	---	---	---	---	---	---
341: Chalco-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Rock outcrop-----	---	---	---	---	---	---
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
342: Chalco-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Tuffo-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Badland-----	---	---	---	---	---	---
Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
343: Chalco-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5
Verdico-----	Gravelly Clay 8-10 P.z.	400	275	150	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- miscellaneous perennial grasses spiny hopsage----- miscellaneous perennial forbs-- Lahontan sagebrush----- lephedra----- miscellaneous shrubs-----	20 5 5 5 5 5 30 5 5
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass----- miscellaneous perennial grasses bottlebrush squirreltail----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	20 15 5 10 30 15
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
344: Coppersmith-----	Deep Loamy 10-12 P.z.	1,300	1,000	700	Thurber's needlegrass----- bluebunch wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- squaw apple----- miscellaneous shrubs-----	30 20 10 15 10 5
Bareranch-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15
Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
345: Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Nosavvy-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Tuffo-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
346: Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pegler-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Valmy-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Crutcher-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
347: Couch-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass-----	40
					Lemmon's alkaligrass-----	30
					inland saltgrass-----	10
					miscellaneous perennial grasses	10
					basin wildrye-----	5
Hovey-----	---	---	---	---	---	---
Bidwell-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Lolak-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hussa-----	---	---	---	---	---	---
348: Couch-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass----- Lemmon's alkaligrass----- inland saltgrass----- miscellaneous perennial grasses basin wildrye-----	40 30 10 10 5
Couch-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass----- Lemmon's alkaligrass----- inland saltgrass----- miscellaneous perennial grasses basin wildrye-----	40 30 10 10 5
Hovey-----	---	---	---	---	---	---
Lolak-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
Hussa-----	---	---	---	---	---	---
349: Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye----- western wheatgrass----- Nevada bluegrass----- miscellaneous perennial forbs-- basin big sagebrush-----	55 15 5 5 10
Macnot-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5
350: Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5
Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye----- western wheatgrass----- Nevada bluegrass----- miscellaneous perennial forbs-- basin big sagebrush-----	55 15 5 5 10
Davey-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5
Valmy-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
351: Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue----- mountain brome----- needlegrass----- melic----- miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	15 15 15 5 15 15 5
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome----- needlegrass----- Idaho fescue----- basin wildrye----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs----- snowberry-----	25 15 5 5 5 5 10 10 5 5
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- basin wildrye----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 5 5 10 5
Hashwoods-----	---	800	600	400	---	---
352: Crazybird-----	South Slope 16-30 P.z.	1,200	800	600	bluebunch wheatgrass----- bluegrass----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush----- miscellaneous shrubs----- miscellaneous trees-----	30 10 10 10 15 10 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Warnermount, warm-----	Ashy Slope 16-30 P.z.	1,500	1,200	900	Idaho fescue-----	25
					bluebunch wheatgrass-----	20
					Nevada bluegrass-----	10
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	15
					antelope bitterbrush-----	10
Crazybird-----	Ashy Loamy Slope 16-30 P.z.	1,000	700	500	Idaho fescue-----	40
					Nevada bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
Welltomas-----	Claypan 16-30 P.z.	900	700	500	bluebunch wheatgrass-----	30
					bluegrass-----	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
					western juniper-----	5
Lithic Argixerolls-----	---	700	500	300	---	---
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany----	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Hartner-----	Eroded Slope 16-30 P.z.	400	250	50	Indian ricegrass-----	10
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	10
					antelope bitterbrush-----	5
					purple sage-----	5
					rubber rabbitbrush-----	5
western juniper-----	5					
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany---	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Lyonman-----	---	500	350	200	---	---
Lithic Argixerolls-----	---	700	500	300	---	---
354: Crutcher-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Emagert-----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye-----	70
					Nevada bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Pegler-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Weimer-----	Wet Clay Basin	1,500	400	0	other annual forbs-----	60
					miscellaneous perennial forbs--	10
					mat muhly-----	5
					miscellaneous perennial grasses	5
					povertyweed-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
357:						
Cuminvar-----	---	---	---	---	---	---
Cuminvar-----	---	---	---	---	---	---
Bicondoa-----	---	---	---	---	---	---
Dangvar-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
358:						
Cummings-----	Wet Meadow 14+ P.z.	3,000	2,200	1,500	tufted hairgrass----- bluegrass----- meadow barley----- miscellaneous perennial grasses rush----- sedge----- miscellaneous perennial forbs--	55 5 5 5 5 5 10
Grimlake-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass----- miscellaneous perennial grasses sedge----- miscellaneous perennial forbs--	45 20 15 15
Weimer-----	Wet Clay Basin	1,500	400	0	other annual forbs----- miscellaneous perennial forbs-- mat muhly----- miscellaneous perennial grasses povertyweed-----	60 10 5 5 5
Crutcher-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
359: Cummings-----	Wet Clay Basin	1,500	400	0	other annual forbs----- miscellaneous perennial forbs-- mat muhly----- miscellaneous perennial grasses povertyweed-----	60 10 5 5 5
Weimer-----	Wet Clay Basin	1,500	400	0	other annual forbs----- miscellaneous perennial forbs-- mat muhly----- miscellaneous perennial grasses povertyweed-----	60 10 5 5 5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5
Crutcher-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
Grimlake-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass----- miscellaneous perennial grasses sedge----- miscellaneous perennial forbs--	45 20 15 15
360: Dangvar-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
Hovey-----	---	---	---	---	---	---
Lolak-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
Raglan-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass----- bottlebrush squirreltail----- shadscale----- bud sagebrush----- miscellaneous shrubs-----	10 5 35 25 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hussa-----	---	---	---	---	---	---
361: Dangvar-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass----- Lemmon's alkaligrass----- inland saltgrass----- miscellaneous perennial grasses basin wildrye-----	40 30 10 10 5
Hussa-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass----- miscellaneous perennial grasses sedge----- miscellaneous perennial forbs--	45 20 15 15
Bidwell-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Raglan-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass----- bottlebrush squirreltail----- shadscale----- bud sagebrush----- miscellaneous shrubs-----	10 5 35 25 10
362: Davey-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Valmy-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pegler-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Zorravista-----	Dunes 8-10 P.z.	900	700	400	Indian ricegrass-----	35
					basin wildrye-----	10
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	15
					spiny hopsage-----	10
					fourwing saltbush-----	5
					miscellaneous shrubs-----	5
363: Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany---	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
					Rock outcrop-----	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Dawgbuffer, cool-----	Mahogany Thicket	6,500	5,000	4,000	bluegrass-----	5
					mountain brome-----	5
					needlegrass-----	5
					miscellaneous perennial forbs--	5
					curl-leaf mountain mahogany---	65
					miscellaneous shrubs-----	5

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Fendersflat-----	Mountain Shoulders 30+ P.z.	1,200	900	650	bluebunch wheatgrass-----	15
					mountain brome-----	15
					needlegrass-----	10
					Sandberg bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
					roundleaf snowberry-----	10
					miscellaneous shrubs-----	5
Rubble land-----	---	---	---	---	---	---
Skidbrackle-----	Claypan 30+ P.z.	1,000	800	600	Idaho fescue-----	20
					bluegrass-----	10
					miscellaneous perennial grasses	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
364: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Bieber-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Buffaran-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
365: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Nitpac-----	Cobbly Claypan 8-12 P.z.	500	375	250	bluebunch wheatgrass----- Thurber's needlegrass----- Webber needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	25 15 5 5 10 25
Rock outcrop-----	---	---	---	---	---	---
Zymans-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Fiddler-----	---	700	500	300	---	---
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 15 10 15 10 5
366: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Rubble land-----	---	---	---	---	---	---
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
367: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Rubble land-----	---	---	---	---	---	---
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
368: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass-----	25
					Thurber's needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	45
Bidrim-----	---	500	300	200	---	---
Rock outcrop-----	---	---	---	---	---	---
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
369: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10
Tunnison-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass----- Thurber's needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush-----	25 10 5 5 45
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail----- Sandberg bluegrass----- miscellaneous perennial forbs-- Washoe rubber rabbitbrush----- low sagebrush----- miscellaneous shrubs-----	15 10 10 45 5 5
Home Camp-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5
Bidrim-----	---	500	300	200	---	---
Rock outcrop-----	---	---	---	---	---	---
370: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Nitpac-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
372: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass-----	35
					bluebunch wheatgrass-----	20
					Idaho fescue-----	15
					big sagebrush-----	15
					antelope bitterbrush-----	5
Grassycan-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Rock outcrop-----	---	---	---	---	---	---
Esmod-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
373: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Rock outcrop-----	---	---	---	---	---	---
Grassycan-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass-----	35
					bluebunch wheatgrass-----	20
					Idaho fescue-----	15
					big sagebrush-----	15
					antelope bitterbrush-----	5
374: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Rubble land-----	---	---	---	---	---	---
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass-----	35
					bluebunch wheatgrass-----	20
					Idaho fescue-----	15
					big sagebrush-----	15
					antelope bitterbrush-----	5
375: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Rock outcrop-----	---	---	---	---	---	---
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
376: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Rock outcrop-----	---	---	---	---	---	---
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass-----	35
					bluebunch wheatgrass-----	20
					Idaho fescue-----	15
					big sagebrush-----	15
					antelope bitterbrush-----	5
377: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass-----	25
					Thurber's needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	45
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Grassycan-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Rock outcrop-----	---	---	---	---	---	---
378: Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass-----	25
					Thurber's needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	45
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nitpac-----	Cobbly Claypan 8-12 P.z.	500	375	250	bluebunch wheatgrass-----	25
					Thurber's needlegrass-----	15
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Bidrim-----	---	500	300	200	---	---
Fiddler-----	---	700	500	300	---	---
379:						
Dismalswamp-----	Semi-Wet Meadow 16+ P.z.	4,000	3,000	2,000	Nebraska sedge-----	20
					tufted hairgrass-----	20
					sedge-----	10
					Baltic rush-----	5
					meadow barley-----	5
					miscellaneous perennial forbs--	15
					silver sagebrush-----	5
					willow-----	5
Dismalswamp, wet-----	Wet Meadow 16+ P.z.	4,000	3,000	2,000	sedge-----	40
					Nebraska sedge-----	25
					tufted hairgrass-----	15
					miscellaneous perennial forbs--	10
					willow-----	5
Aquandic Cryaquolls-----	Willow Thicket	9,000	6,000	5,000	carex-----	15
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					willow-----	55
					miscellaneous shrubs-----	5
Boulderfan-----	Moist Mountain Basin	1,400	1,200	800	needlegrass-----	35
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					silver sagebrush-----	30
					roundleaf snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Vitrandic Haplocryolls--	Streambank	7,800	6,000	5,000	sedge-----	10
					tufted hairgrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					willow-----	50
					Woods' rose-----	5
Water-----	---	---	---	---	---	---
380:						
Donica-----	Well Drained Fan 12-14 P. z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Surprise-----	Well Drained Fan 12-14 P. z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Bidwell-----	Well Drained Fan 12-14 P. z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Hussa-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
381: Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Sesdah-----	Ashy Loamy Slope 16-30 P.z.	1,000	700	500	Idaho fescue----- Nevada bluegrass----- bluebunch wheatgrass----- miscellaneous perennial forbs-- mountain big sagebrush-----	40 15 10 10 20
Hartner-----	Eroded Slope 16-30 P.z.	400	250	50	Indian ricegrass----- bluebunch wheatgrass----- needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs----- antelope bitterbrush----- purple sage----- rubber rabbitbrush----- western juniper-----	10 10 10 5 15 10 10 5 5 5 5
Fluvaquents-----	---	3,000	2,200	1,500	---	---
382: Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Sesdah-----	Ashy Loamy Slope 16-30 P.z.	1,000	700	500	Idaho fescue-----	40
					Nevada bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
Hartner-----	Eroded Slope 16-30 P.z.	400	250	50	Indian ricegrass-----	10
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	10
					antelope bitterbrush-----	5
					purple sage-----	5
					rubber rabbitbrush-----	5
					western juniper-----	5
Fluvaquents-----	---	3,000	2,200	1,500	---	---
383: Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Fluvaquents-----	---	3,000	2,200	1,500	---	---
Histic Endoaquolls-----	Wet Meadow 14+ P.z.	3,000	2,200	1,500	tufted hairgrass-----	55
					bluegrass-----	5
					meadow barley-----	5
					miscellaneous perennial grasses	5
					rush-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
384:						
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Fluvaquents-----	---	3,000	2,200	1,500	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Histic Endoaquolls-----	Wet Meadow 14+ P.z.	3,000	2,200	1,500	tufted hairgrass-----	55
					bluegrass-----	5
					meadow barley-----	5
					miscellaneous perennial grasses	5
					rush-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
385: Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Fluvaquents-----	---	3,000	2,200	1,500	---	---
Histic Endoaquolls-----	Wet Meadow 14+ P.z.	3,000	2,200	1,500	tufted hairgrass-----	55
					bluegrass-----	5
					meadow barley-----	5
					miscellaneous perennial grasses	5
					rush-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
386: Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass----- needlegrass----- basin wildrye----- mountain big sagebrush-----	60 10 5 10
Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 15 10 15 10 5
Fiddler-----	---	700	500	300	---	---
387: Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass----- needlegrass----- basin wildrye----- mountain big sagebrush-----	60 10 5 10
Fiddler-----	---	700	500	300	---	---
Rubble land-----	---	---	---	---	---	---
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Westbutte-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
388: Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Rubble land-----	---	---	---	---	---	---
Bidrim-----	---	500	300	200	---	---
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
389: Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Redhome-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Menbo-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Bidrim-----	---	500	300	200	---	---
390: Emagert-----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye-----	70
					Nevada bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Crutcher-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Wetvit-----	Wet Meadow 10-14 P.z.	4,000	3,000	2,000	Nevada bluegrass-----	45
					creeping wildrye-----	20
					sedge-----	15
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
391: Emagert-----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye----- Nevada bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- basin big sagebrush-----	70 5 5 5 10
Wetvit-----	Wet Meadow 10-14 P.z.	4,000	3,000	2,000	Nevada bluegrass----- creeping wildrye----- sedge----- miscellaneous perennial grasses miscellaneous perennial forbs--	45 20 15 5 5
Weezweed-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye----- western wheatgrass----- Nevada bluegrass----- miscellaneous perennial forbs-- basin big sagebrush-----	55 15 5 5 10
Vitriixerandic Haplargids	Loamy Fan 10-12 P.z.	1,200	900	600	bluegrass----- needlegrass----- miscellaneous perennial grasses basin wildrye----- big sagebrush-----	30 25 10 5 20
Wetvit-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass----- miscellaneous perennial grasses sedge----- miscellaneous perennial forbs--	45 20 15 15
392: Emamount-----	Loamy Bottom 12-16 P.z.	2,200	1,700	1,200	basin wildrye----- miscellaneous perennial grasses wheatgrass----- miscellaneous perennial forbs-- mountain big sagebrush-----	50 10 10 10 10
Grimlake-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass----- miscellaneous perennial grasses sedge----- miscellaneous perennial forbs--	45 20 15 15
Macyflet-----	Clay Plain	900	700	450	Cusick's bluegrass----- needlegrass----- basin wildrye----- Nevada bluegrass----- miscellaneous perennial forbs-- early sagebrush-----	25 25 10 5 5 20

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Boulder Lake-----	Clay Basin	1,800	1,500	1,000	Nevada bluegrass-----	45
					wildrye-----	15
					mat muhly-----	5
					miscellaneous perennial forbs--	10
					silver sagebrush-----	10
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
393: Esmod-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Ashcamp-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Leviathan-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
394: Esmod-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Grassycan-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Macnot, nearly level----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
395: Esmod-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
Webber needlegrass-----					5	
bluegrass-----					5	
miscellaneous perennial forbs--					10	
low sagebrush-----					25	
Powlow-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass-----	35
					bluebunch wheatgrass-----	20
					Idaho fescue-----	15
					big sagebrush-----	15
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ashone-----	Ashy Claypan 10-14 P.z.	1,300	1,000	700	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	20
					bluegrass-----	10
					Idaho fescue-----	5
					low sagebrush-----	15
					antelope bitterbrush-----	5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
396: Ferver-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Macnot-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Rock outcrop-----	---	---	---	---	---	---
397: Ferver-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Lithic Xeric Haplargids-	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Boulder Lake-----	Clay Basin	1,800	1,500	1,000	Nevada bluegrass-----	45
					wildrye-----	15
					mat muhly-----	5
					miscellaneous perennial forbs--	10
					silver sagebrush-----	10
398: Fitzwater-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
403:						
Four Star-----	---	---	---	---	---	---
Four Star-----	---	---	---	---	---	---
Hussa-----	---	---	---	---	---	---
Hussa-----	---	---	---	---	---	---
404:						
Freznik-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					low sagebrush-----	35
					miscellaneous perennial forbs--	10
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	4
					miscellaneous trees-----	1
Rock outcrop-----	---	---	---	---	---	---
Carryback-----	Claypan 12-16 Pz	1,000	800	600	Idaho fescue-----	50
					low sagebrush-----	20
					bluebunch wheatgrass-----	10
					Sandberg bluegrass-----	5
					Thurber's needlegrass-----	5
Deseed-----	Clayey 10-12 Pz	1,200	900	700	bluebunch wheatgrass-----	60
					Sandberg bluegrass-----	10
					Wyoming big sagebrush-----	10
					Thurber's needlegrass-----	5
					skyline bluegrass-----	5
Ferver-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	30
					low sagebrush-----	25
					Canby bluegrass-----	5
					Douglas rabbitbrush-----	5
					Sandberg bluegrass-----	5
					Webber needlegrass-----	5
					bluebunch wheatgrass-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
Floke-----	Claypan 10-12 Pz	900	700	500	bluebunch wheatgrass-----	40
					low sagebrush-----	20
					Sandberg bluegrass-----	10
					balsamroot-----	5
					lomatium-----	5
					lupine-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Rubble land-----	---	---	---	---	---	---
Tunnison-----	Churning Clay	350	225	150	rubber rabbitbrush-----	40
					bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	5
					low sagebrush-----	5
					miscellaneous perennial forbs--	5
					miscellaneous perennial grasses	5
					miscellaneous shrubs-----	5
					buckwheat-----	3
					lupine-----	2
405:						
Fulstone-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Nellspring-----	Gravelly Clay 8-10 P.z.	400	275	150	Thurber's needlegrass-----	20
					Indian ricegrass-----	5
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					spiny hopsage-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					ephedra-----	5
					miscellaneous shrubs-----	5
Buffaran-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Abruptic Xeric Argidurids-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Aridic Haploxererts-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Aridic Haploxererts-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Rock outcrop-----	---	---	---	---	---	---
406: Fulstone-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Tuffo-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Argidic Argidurids-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Vitrixerandic Haplargids	Loamy Fan 10-12 P.z.	1,200	900	600	bluegrass-----	30
					needlegrass-----	25
					miscellaneous perennial grasses	10
					basin wildrye-----	5
					big sagebrush-----	20
407: Gorzell-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
408: Gorzell-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Zorravista-----	Dunes 8-10 P.z.	900	700	400	Indian ricegrass-----	35
					basin wildrye-----	10
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	15
					spiny hopsage-----	10
					fourwing saltbush-----	5
					miscellaneous shrubs-----	5
409: Grassycan-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Grassycan-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Rock outcrop-----	---	---	---	---	---	---
410: Grassyca-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Rock outcrop-----	---	---	---	---	---	---
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Grassyca-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass-----	25
					Thurber's needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	45
411: Gurlidawg-----	---	450	300	150	---	---
Lotawaca-----	---	800	600	400	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
413:						
Gurlidawg-----	---	450	300	150	---	---
Gurlidawg, cool-----	---	300	200	100	---	---
Lotawaca-----	---	800	600	400	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti-----	---	800	600	400	---	---
Rock outcrop-----	---	---	---	---	---	---
Vitrandic Cryorthents---	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
414:						
Gurlidawg-----	---	300	200	100	---	---
Gurlidawg, cool-----	---	450	300	150	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Gurlidawg-----	---	300	200	100	---	---
Pyropatti-----	---	800	600	400	---	---
Rock outcrop-----	---	---	---	---	---	---
Vitrandic Cryorthents---	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
415:						
Halvert-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Jaybee-----	Gravelly Clay 8-10 P.z.	400	275	150	Thurber's needlegrass-----	20
					Indian ricegrass-----	5
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					spiny hopsage-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					ephedra-----	5
					miscellaneous shrubs-----	5
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Schamp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Fiddler-----	---	700	500	300	---	---
Boulder Lake-----	Clay Basin	1,800	1,500	1,000	Nevada bluegrass----- wildrye----- mat muhly----- miscellaneous perennial forbs-- silver sagebrush-----	45 15 5 10 10
416: Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Tuffo-----	Chalky Knoll	350	200	100	Indian ricegrass----- miscellaneous perennial grasses bottlebrush squirreltail----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	20 15 5 10 30 15
Chalco-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5
417: Harskel-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5
Hashwoods-----	---	800	600	400	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
418: Harskel-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10
Menbo-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome----- needlegrass----- Idaho fescue----- basin wildrye----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs----- snowberry-----	25 15 5 5 5 5 10 10 5 5
Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10
419: Harskel-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Crocan-----	---	500	300	200	Cusick's bluegrass-----	2
420: Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Menbo-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Hart Camp, moist-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Crocan-----	---	500	300	200	Cusick's bluegrass-----	2
Vitritorrandic Argixerolls-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
421: Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue-----	50
					Cusick's bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Hartig-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Lithic Argixerolls-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Vitrandic Haplocryolls--	Deep Loamy 14-16 P.z.	1,800	1,500	1,200	Idaho fescue-----	50
					Cusick's bluegrass-----	10
					needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
422: Hart Camp, moist-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Runyon-----	Cool Loam 12-16"	2,200	1,800	1,400	Idaho fescue-----	50
					Canby bluegrass-----	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Vitritorrandic Argixerolls-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
423: Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Karlo-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Crocan-----	---	500	300	200	Cusick's bluegrass-----	2
424: Hartner-----	Eroded Slope 16-30 P.z.	400	250	50	Indian ricegrass-----	10
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	10
					antelope bitterbrush-----	5
					purple sage-----	5
					rubber rabbitbrush-----	5
					western juniper-----	5
Rock outcrop-----	---	---	---	---	---	---
Sesdah-----	Ashy Loamy Slope 16-30 P.z.	1,000	700	500	Idaho fescue-----	40
					Nevada bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
Crazybird-----	South Slope 16-30 P.z.	1,200	800	600	bluebunch wheatgrass-----	30
					bluegrass-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	15
					antelope bitterbrush-----	10
					miscellaneous shrubs-----	5
					miscellaneous trees-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany---	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Welltomas-----	Claypan 16-30 P.z.	900	700	500	bluebunch wheatgrass-----	30
					bluegrass-----	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
					western juniper-----	5
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Lithic Argixerolls-----	---	700	500	300	---	---
Lyonman-----	---	500	350	200	---	---
Vitrandic Argixerolls---	Loamy 16-30 P.z.	1,400	1,000	800	Idaho fescue-----	40
					bluebunch wheatgrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
Vitrandic Haploxerolls--	---	2,000	1,500	1,000	---	---
425: Home Camp-----	Stony Loam 12-16"	1,800	1,400	1,000	bluebunch wheatgrass-----	30
					Idaho fescue-----	25
					needlegrass-----	25
					antelope bitterbrush-----	10
					mountain big sagebrush-----	5
Runyon-----	Cool Loam 12-16"	2,200	1,800	1,400	Idaho fescue-----	50
					Canby bluegrass-----	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hart Camp-----	Stony Loam 12-16"	1,800	1,400	1,000	bluebunch wheatgrass-----	30
					Idaho fescue-----	25
					needlegrass-----	25
					antelope bitterbrush-----	10
					mountain big sagebrush-----	5
Rock outcrop-----	---	---	---	---	---	---
Madeline-----	Warm Stony Loam 12-16"	1,800	1,200	900	bluebunch wheatgrass-----	70
					Thurber's needlegrass-----	10
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	5
					mountain big sagebrush-----	5
426: Hovey-----	---	---	---	---	---	---
Couch-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass-----	40
					Lemmon's alkaligrass-----	30
					inland saltgrass-----	10
					miscellaneous perennial grasses	10
					basin wildrye-----	5
Hussa-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Lolak-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Hussa-----	---	---	---	---	---	---
427: Hussa-----	---	---	---	---	---	---
Buntingville-----	---	---	---	---	---	---
Hussa-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Histic Endoaquolls-----	Wet Meadow 14+ P.z.	3,000	2,200	1,500	tufted hairgrass-----	55
					bluegrass-----	5
					meadow barley-----	5
					miscellaneous perennial grasses	5
					rush-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
428:						
Hussa-----	---	---	---	---	---	---
Hovey-----	---	---	---	---	---	---
Buntingville-----	---	---	---	---	---	---
Four Star-----	---	---	---	---	---	---
429:						
Hussa-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
Four Star-----	---	---	---	---	---	---
Four Star, seeped-----	---	---	---	---	---	---
Hussa-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Hussa-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hovey-----	---	---	---	---	---	---
434:						
Hussa-----	---	---	---	---	---	---
Four Star-----	---	---	---	---	---	---
435:						
Hussa-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
Couch-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass----- Lemmon's alkaligrass----- inland saltgrass----- miscellaneous perennial grasses basin wildrye-----	40 30 10 10 5
Hovey-----	---	---	---	---	---	---
Dangvar-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
Hussa-----	---	---	---	---	---	---
436:						
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- basin wildrye----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 5 5 10 5
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue----- needlegrass----- bluebunch wheatgrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	40 10 5 5 5 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
437: Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Badgercamp-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
mountain big sagebrush-----	5					

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Mosquet-----	Shallow Loam 14+ P.z.	800	600	400	Idaho fescue-----	45
					bluegrass-----	10
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	15
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5
Hashwoods-----	---	800	600	400	---	---
438: Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
Zorromount, snowpocket--	Ceanothus Thicket	1,200	900	700	miscellaneous perennial grasses	15
					miscellaneous perennial forbs--	10
					snowbrush ceanothus-----	65
					miscellaneous shrubs-----	5
Rock outcrop-----	---	---	---	---	---	---
439: Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Mosquet-----	Shallow Loam 14+ P.z.	800	600	400	Idaho fescue-----	45
					bluegrass-----	10
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	15
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue-----	50
					Cusick's bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Cavin-----	Mountain Shoulders 14-18 P. z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
440: Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
Ninemile-----	Claypan 14-16 P. z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
Nutzan-----	Ashy Loam 14-16 P. z.	1,700	1,300	1,000	low sagebrush-----	10
					miscellaneous shrubs-----	5
					Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
442: Indian Creek-----	Gravelly Claypan 10-12 P. z.	600	450	300	Thurber's needlegrass----- Webber needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 5 5 10 25
Buffaran-----	Loamy 8-10 P. z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Corral-----	Loamy 8-10 P. z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Devada-----	Claypan 10-14 P. z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Schamp-----	Loamy 8-10 P. z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Vertic Paleargids-----	Clay Plain	900	700	450	Cusick's bluegrass----- needlegrass----- basin wildrye----- Nevada bluegrass----- miscellaneous perennial forbs-- early sagebrush-----	25 25 10 5 5 20

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
443: Jaybee-----	Gravelly Clay 8-10 P.z.	400	275	150	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- miscellaneous perennial grasses spiny hopsage----- miscellaneous perennial forbs-- Lahontan sagebrush----- ephedra----- miscellaneous shrubs-----	20 5 5 5 5 5 5 30 5 5
Verdico-----	Gravelly Clay 8-10 P.z.	400	275	150	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- miscellaneous perennial grasses spiny hopsage----- miscellaneous perennial forbs-- Lahontan sagebrush----- ephedra----- miscellaneous shrubs-----	20 5 5 5 5 5 5 30 5 5
Emagert-----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye----- Nevada bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- basin big sagebrush-----	70 5 5 5 10
Reywat-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15
Toney-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue----- bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	30 30 5 5 5 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Schamp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
444: Keddie-----	Semi-Wet Meadow 16+ P.z.	4,700	3,300	1,900	Nebraska sedge-----	20
					tufted hairgrass-----	20
					sedge-----	10
					Baltic rush-----	5
					meadow barley-----	5
					miscellaneous perennial forbs--	15
					silver sagebrush-----	5
					willow-----	5
Dotta-----	Cool Loam 12-16"	2,200	1,800	1,400	Idaho fescue-----	50
					bluegrass-----	15
					needlegrass-----	10
					antelope bitterbrush-----	5
					mountain big sagebrush-----	5
Emamout-----	Loamy Bottom 12-16 P.z.	2,200	1,700	1,200	basin wildrye-----	50
					miscellaneous perennial grasses	10
					wheatgrass-----	10
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
Grimlake-----	Semi-Wet Meadow 16+ P.z.	4,700	3,300	1,900	Nebraska sedge-----	20
					tufted hairgrass-----	20
					sedge-----	10
					Baltic rush-----	5
					meadow barley-----	5
					miscellaneous perennial forbs--	15
					silver sagebrush-----	5
					willow-----	5
445: Leviathan-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Xeric Torriorthents-----	Gravelly Fan 8-10 P.z.	800	500	300	Indian ricegrass-----	20
					basin wildrye-----	10
					miscellaneous perennial grasses	5
					basin big sagebrush-----	25
					spiny hopsage-----	15
					miscellaneous shrubs-----	10
446: Lolak-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Hovey-----	---	---	---	---	---	---
Bicondoa-----	---	---	---	---	---	---
Cuminvar-----	---	---	---	---	---	---
447: Longdis-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Dugway-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Updike-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Langston-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Paypoint-----	Loamy Fan 10-12 P.z.	1,200	900	600	bluegrass-----	30
					needlegrass-----	25
					miscellaneous perennial grasses	10
					basin wildrye-----	5
					big sagebrush-----	20
448:						
Longval-----	---	500	350	200	---	---
Lyonman, cool-----	---	500	350	200	---	---
Nowack-----	---	800	600	400	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Histic Cryaquolls-----	Wet Meadow 16+ P.z.	4,000	3,000	2,000	---	---
Rock outcrop-----	---	---	---	---	---	---
449:						
Lotawaca-----	---	800	600	400	---	---
Gurlidawg-----	---	450	300	150	---	---
Nowack-----	---	800	600	400	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti-----	---	800	600	400	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Rock outcrop-----	---	---	---	---	---	---
Gurlidawg, cool-----	---	300	200	100	---	---
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
450:						
Lotawaca-----	---	800	600	400	---	---
Gurlidawg-----	---	450	300	150	---	---
Nowack-----	---	800	600	400	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti-----	---	800	600	400	---	---
Rock outcrop-----	---	---	---	---	---	---
Gurlidawg, cool-----	---	300	200	100	---	---
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
451:						
Lyonman-----	---	500	350	200	---	---
Nowack-----	---	800	600	400	---	---
Warnermount-----	Loamy Slope 16-30 P.z.	2,400	2,000	1,500	needlegrass-----	20
					bluebunch wheatgrass-----	10
					mountain brome-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Welltomas-----	Claypan 16-30 P.z.	900	700	500	bluebunch wheatgrass-----	30
					bluegrass-----	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
					western juniper-----	5
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany----	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Lithic Argixerolls-----	---	700	500	300	---	---
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Vitrandic Haploxerolls--	---	2,000	1,500	1,000	---	---
452: Lyonman-----	---	500	350	200	---	---
Nowack-----	---	800	600	400	---	---
Warnermount-----	Loamy Slope 16-30 P.z.	2,400	2,000	1,500	needlegrass-----	20
					bluebunch wheatgrass-----	10
					mountain brome-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Welltomas-----	Claypan 16-30 P.z.	900	700	500	bluebunch wheatgrass-----	30
					bluegrass-----	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
					western juniper-----	5
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany----	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Lithic Argixerolls-----	---	700	500	300	---	---
Pyropatti-----	---	800	600	400	---	---
Vitrandic Haploxerolls--	---	2,000	1,500	1,000	---	---
453: Lyonman-----	---	500	350	200	---	---
Fendersflat-----	Ashy Slope 30+ P.z.	1,250	900	600	Idaho fescue-----	25
					miscellaneous perennial grasses	10
					Sandberg bluegrass-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Burningman-----	Ashy Claypan 16-30 P.z.	1,100	800	500	bluebunch wheatgrass-----	15
					Idaho fescue-----	10
					Thurber's needlegrass-----	10
					bluegrass-----	5
					prairie Junegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	20
					antelope bitterbrush-----	5
					western juniper-----	5
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Rock outcrop-----	---	---	---	---	---	---
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
454: Lyonman, cool-----	---	500	350	200	---	---
Fendersflat-----	Ashy Slope 30+ P.z.	1,250	900	600	Idaho fescue-----	25
					miscellaneous perennial grasses	10
					Sandberg bluegrass-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Burningman-----	Ashy Claypan 16-30 P.z.	1,100	800	500	bluebunch wheatgrass-----	15
					Idaho fescue-----	10
					Thurber's needlegrass-----	10
					bluegrass-----	5
					prairie Junegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	20
					antelope bitterbrush-----	5
					western juniper-----	5
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Rock outcrop-----	---	---	---	---	---	---
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
455: Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Mazuma-----	Gravelly Loam 5-8 P.z.	900	700	500	Indian ricegrass-----	15
					bottlebrush squirreltail-----	5
					miscellaneous shrubs-----	5
					shadscale-----	40
					spiny hopsage-----	20
					bud sagebrush-----	10
Schamp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
McConnel-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
McConnel-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
456: Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Glasshawk-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass-----	10
					bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
					miscellaneous shrubs-----	10
Nomazu, moderately saline-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					shadscale-----	45
					black greasewood-----	25
					bud sagebrush-----	5
					miscellaneous shrubs-----	5
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nomazu-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
457: Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Gorzell-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Macnot, nearly level---	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
spiny hopsage-----	5					
Mcwatt-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
miscellaneous shrubs-----	5					

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nomazu-----	Silty 4-8 P.z.	500	350	200	Indian ricegrass-----	20
					bottlebrush squirreltail-----	5
					winterfat-----	60
					bud sagebrush-----	5
Glasshawk-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass-----	10
					bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
					miscellaneous shrubs-----	10
458: Macnot, nearly level----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Weezweed-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Emagert-----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye-----	70
					Nevada bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Wetvit-----	Wet Meadow 10-14 P.z.	4,000	3,000	2,000	Nevada bluegrass-----	45
					creeping wildrye-----	20
					sedge-----	15
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
459: Macnot-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5
Mcwatt-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
460: Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Macnot, nearly level----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
spiny hopsage-----	5					
Nomazu, moderately saline-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					shadscale-----	45
					black greasewood-----	25
					bud sagebrush-----	5
					miscellaneous shrubs-----	5
Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
spiny hopsage-----	5					
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
461: Madelaine-----	Stony Loam 12-16"	1,800	1,400	1,000	Idaho fescue-----	25
					bluebunch wheatgrass-----	25
					Thurber's needlegrass-----	20
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	10
					mountain big sagebrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Sumine-----	Loam 12-16"	2,200	1,800	1,400	Idaho fescue-----	20
					bluebunch wheatgrass-----	20
					Thurber's needlegrass-----	15
					bluegrass-----	10
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Jauriga-----	Loam 12-16"	2,200	1,800	1,400	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	25
					antelope bitterbrush-----	5
					mountain big sagebrush-----	5
Orhood-----	Stony Loam 12-16"	1,800	1,400	1,000	bluebunch wheatgrass-----	30
					Idaho fescue-----	25
					Thurber's needlegrass-----	10
					Lemmon needlegrass-----	5
					Sandberg bluegrass-----	5
					antelope bitterbrush-----	5
					arrowleaf balsamroot-----	5
					mountain big sagebrush-----	5
					rabbitbrush-----	5
					Brubeck-----	Clay Upland 9-16"
western wheatgrass-----	15					
Thurber's needlegrass-----	10					
Washoe rubber rabbitbrush-----	10					
beardless wildrye-----	10					
littleleaf horsebrush-----	10					
big sagebrush-----	5					
462: Mazuma-----	Gravelly Loam 5-8 P.z.	900	700	500	Indian ricegrass-----	15
					bottlebrush squirreltail-----	5
					miscellaneous shrubs-----	5
					shadscale-----	40
					spiny hopsage-----	20
					bud sagebrush-----	10
Bighat-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass-----	10
					bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Mazuma, alkali-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					shadscale-----	45
					black greasewood-----	25
					bud sagebrush-----	5
					miscellaneous shrubs-----	5
Raglan-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					shadscale-----	45
					black greasewood-----	25
					bud sagebrush-----	5
					miscellaneous shrubs-----	5
463: Mcwatt-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Rubble land-----	---	---	---	---	---	---
Langston-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Aridic Argixerolls-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Fernpoint-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
464: Mcwatt-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass----- miscellaneous perennial grasses bottlebrush squirreltail----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	20 15 5 10 30 15
Pegler-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Gorzell-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Macnot, nearly level----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
465: Medved-----	Channery Hill 8-10 P.z.	800	500	200	Indian ricegrass----- thickspike wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- squaw apple----- miscellaneous shrubs-----	15 10 5 5 30 15 5
Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Valmy-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5
Gorzell-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
466: Menbo-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Badgercamp-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Hart Camp, moist-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
467: Nevadash-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Raglan-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass-----	10
					bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
468: Nevadash-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Raglan-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass-----	10
					bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
					miscellaneous shrubs-----	10
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Hussa-----	---	---	---	---	---	---
469: Nevadash-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Zorravista-----	Dunes 8-10 P.z.	900	700	400	Indian ricegrass-----	35
					basin wildrye-----	10
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	15
					spiny hopsage-----	10
					fourwing saltbush-----	5
					miscellaneous shrubs-----	5
470: Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Zorravista-----	Dunes 8-10 P.z.	900	700	400	Indian ricegrass-----	35
					basin wildrye-----	10
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	15
					spiny hopsage-----	10
					fourwing saltbush-----	5
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
471: Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Gorzell-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Davey-----	Sandy 8-12 P.z.	1,000	800	600	needleandthread-----	30
					Indian ricegrass-----	20
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
					spiny hopsage-----	5
Zorravista-----	Dunes 8-10 P.z.	900	700	400	Indian ricegrass-----	35
					basin wildrye-----	10
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	15
					spiny hopsage-----	10
					fourwing saltbush-----	5
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
472: Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye----- western wheatgrass----- Nevada bluegrass----- miscellaneous perennial forbs-- basin big sagebrush-----	55 15 5 5 10
Gorzell-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5
Valmy-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5
473: Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Gorzell-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
474: Newlands-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
Menbo-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Hartig-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Badgercamp-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5
475: Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue----- bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	30 30 5 5 5 5 10 5
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- basin wildrye----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 5 5 10 5
Crocan-----	---	500	300	200	---	---
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5
Redhome-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue----- needlegrass----- bluebunch wheatgrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	40 10 5 5 5 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Rock outcrop-----	---	---	---	---	---	---
476: Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue----- bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	30 30 5 5 5 5 10 5
Karlo-----	Churning Clay	350	225	150	bottlebrush squirreltail----- Sandberg bluegrass----- miscellaneous perennial forbs-- Washoe rubber rabbitbrush----- low sagebrush----- miscellaneous shrubs-----	15 10 10 45 5 5
Crocan-----	---	500	300	200	---	---
Madeline-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 15 10 15 10 5
Tinpan-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue----- bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	30 30 5 5 5 5 10 5
Hart Camp, moist-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Rock outcrop-----	---	---	---	---	---	---
477: Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue----- bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	30 30 5 5 5 5 10 5
Madeline-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10
Crocan-----	---	500	300	200	---	---
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5
Harskel-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass----- needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	35 10 10 20 10
Karlo-----	Churning Clay	350	225	150	bottlebrush squirreltail----- Sandberg bluegrass----- miscellaneous perennial forbs-- Washoe rubber rabbitbrush----- low sagebrush----- miscellaneous shrubs-----	15 10 10 45 5 5
478: Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue----- bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	30 30 5 5 5 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Madeline-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Redhome-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Badgercamp-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Hart Camp, moist-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Crocan-----	---	500	300	200	Cusick's bluegrass-----	2
Rock outcrop-----	---	---	---	---	---	---
479: Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Madeline-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
Tinpan-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Karlo-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Crocan-----	---	500	300	200	Cusick's bluegrass-----	2
Newlands-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
480: Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Crocac-----	---	500	300	200	---	---
Madeline-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Harskel-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
Rock outcrop-----	---	---	---	---	---	---
481: Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Westbutte-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
482: Nitpac-----	Cobbly Claypan 8-12 P.z.	500	375	250	bluebunch wheatgrass-----	25
					Thurber's needlegrass-----	15
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Bidrim-----	---	500	300	200	---	---
Redhome-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Fiddler-----	---	700	500	300	---	---
483: Nitpac-----	Cobbly Claypan 8-12 P.z.	500	375	250	bluebunch wheatgrass-----	25
					Thurber's needlegrass-----	15
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass-----	25
					Thurber's needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	45
Bidrim-----	---	500	300	200	---	---
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
484: Nomazu-----	Gravelly Loam 5-8 P.z.	900	700	500	Indian ricegrass----- bottlebrush squirreltail----- miscellaneous shrubs----- shadscale----- spiny hopsage----- bud sagebrush-----	15 5 5 40 20 10
Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Nomazu, moderately saline-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- shadscale----- black greasewood----- bud sagebrush----- miscellaneous shrubs-----	5 5 5 45 25 5 5
Macnot-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5
Nomazu, non-saline surface-----	Silty 4-8 P.z.	500	350	200	Indian ricegrass----- bottlebrush squirreltail----- winterfat----- bud sagebrush-----	20 5 60 5
485: Nomazu, moderately saline-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- shadscale----- black greasewood----- bud sagebrush----- miscellaneous shrubs-----	5 5 5 45 25 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ragtown-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					shadscale-----	45
					black greasewood-----	25
					bud sagebrush-----	5
					miscellaneous shrubs-----	5
Macnot-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Crutcher-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Pegler-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
486: Nopeg-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass-----	10
					bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
					miscellaneous shrubs-----	10
Pegler-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Mcwatt-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Davey-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Valmy-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
487:						
Nowack-----	---	800	600	400	---	---
Lotawaca-----	---	800	600	400	---	---
Lyonman-----	---	500	350	200	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti-----	---	800	600	400	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany----	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Gurlidawg-----	---	450	300	150	---	---
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Rock outcrop-----	---	---	---	---	---	---
488: Nowack-----	---	800	600	400	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Lotawaca-----	---	800	600	400	---	---
Lyonman-----	---	500	350	200	---	---
Pyropatti-----	---	800	600	400	---	---
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany----	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Gurlidawg-----	---	450	300	150	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Gurlidawg, cool-----	---	300	200	100	---	---
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Rock outcrop-----	---	---	---	---	---	---
489: Nowack-----	---	800	600	400	---	---
Fendersflat, cool-----	Ashy Slope 30+ P.z.	1,250	900	600	Idaho fescue-----	25
					miscellaneous perennial grasses	10
					Sandberg bluegrass-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti-----	---	800	600	400	---	---
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany----	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Lyonman-----	---	500	350	200	---	---
Rock outcrop-----	---	---	---	---	---	---
490: Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Badgercamp-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue-----	50
					Cusick's bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
492: Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue----- needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush----- miscellaneous shrubs-----	40 20 5 5 10 10 5
Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue----- Cusick's bluegrass----- bluebunch wheatgrass----- miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	50 15 10 5 10 5
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue----- needlegrass----- bluebunch wheatgrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	40 10 5 5 5 5 10 5
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- basin wildrye----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 5 5 10 5
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- Cusick's bluegrass----- miscellaneous perennial forbs-- mountain big sagebrush-----	25 10 10 5 10 25
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue----- mountain brome----- needlegrass----- melic----- miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	15 15 15 5 15 15 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre	Pct	
493: Observation-----	Stony Loam 12-16"	1,800	1,400	1,000	Idaho fescue----- bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	25 25 20 10 10 5
Searles-----	Warm Stony Loam 12-16"	1,800	1,200	900	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	70 10 5 5 5
Madeline-----	Stony Loam 12-16"	1,800	1,400	1,000	Idaho fescue----- bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	25 25 20 10 10 5
Rubble land-----	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---
Glean-----	Stony Loam 12-16"	1,800	1,400	1,000	bluebunch wheatgrass----- Idaho fescue----- needlegrass----- antelope bitterbrush----- mountain big sagebrush-----	30 25 25 10 5
494: Old Camp-----	Loamy 8-10 P. z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Schamp-----	Loamy 8-10 P. z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Bombadil-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Corral-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
495: Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
496: Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Bombadil-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
497: Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Ferver-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
498: Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Gorzell-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Mcwatt-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Glasshawk-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass----- bottlebrush squirreltail----- shadscale----- bud sagebrush----- miscellaneous shrubs-----	10 5 35 25 10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
499: Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Mcwatt-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Macnot-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Glasshawk-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass----- bottlebrush squirreltail----- shadscale----- bud sagebrush----- miscellaneous shrubs-----	10 5 35 25 10
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass----- miscellaneous perennial grasses bottlebrush squirreltail----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	20 15 5 10 30 15
500: Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Rubble land-----	---	---	---	---	---	---
Lithic Xeric Torriorthents-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Weezweed-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Wetvit-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
501: Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Ferver-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass-----	45
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Macnot-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
502: Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Skedaddle-----	Stony Slope 8-10 P.z.	900	700	450	desert needlegrass-----	50
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	5
					Wyoming big sagebrush-----	25
					miscellaneous shrubs-----	5
Mcwatt-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Rock outcrop-----	---	---	---	---	---	---
503:						
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany----	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Fendersflat-----	Mountain Shoulders 30+ P.z.	1,200	900	650	bluebunch wheatgrass-----	15
					mountain brome-----	15
					needlegrass-----	10
					Sandberg bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
					roundleaf snowberry-----	10
					miscellaneous shrubs-----	5
Aquandic Cryaquolls----	Willow Thicket	9,000	6,000	5,000	carex-----	15
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					willow-----	55
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Fingerridge-----	Mountain Ridge 30+ P.z.	900	700	500	Idaho fescue-----	30
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Lithic Xerorthents-----	Eroded Slope 30+ P.z.	300	200	100	Cusick's bluegrass-----	25
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	25
					goldenbush-----	20
					miscellaneous shrubs-----	10
Nowack-----	---	800	600	400	---	---
Rock outcrop-----	---	---	---	---	---	---
Vitrandic Argicryolls---	Prunus Pocket	6,000	4,000	3,200	bitter cherry-----	55
					mountain brome-----	15
					mountain big sagebrush-----	10
					snowberry-----	5
504: Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Skidbrackle-----	Claypan 30+ P.z.	1,000	800	600	Idaho fescue-----	20
					bluegrass-----	10
					miscellaneous perennial grasses	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
Lithic Xerorthents-----	Eroded Slope 30+ P.z.	300	200	100	Cusick's bluegrass-----	25
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	25
					goldenbush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Rock outcrop-----	---	---	---	---	---	---
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Vitrandic Argicryolls---	Mountain Shoulders 30+ P.z.	1,200	900	650	bluebunch wheatgrass-----	15
					mountain brome-----	15
					needlegrass-----	10
					Sandberg bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
					roundleaf snowberry-----	10
					miscellaneous shrubs-----	5
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany----	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
505: Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Fendersflat-----	Ashy Slope 30+ P.z.	1,250	900	600	Idaho fescue-----	25
					miscellaneous perennial grasses	10
					Sandberg bluegrass-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany---	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Skidbrackle-----	Claypan 30+ P.z.	1,000	800	600	Idaho fescue-----	20
					bluegrass-----	10
					miscellaneous perennial grasses	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Lyonman, cool-----	---	500	350	200	---	---
Rock outcrop-----	---	---	---	---	---	---
506: Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Fendersflat, cool-----	Mountain Shoulders 30+ P.z.	1,200	900	650	bluebunch wheatgrass-----	15
					mountain brome-----	15
					needlegrass-----	10
					Sandberg bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
					roundleaf snowberry-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Vitrandic Argicryolls---	Prunus Pocket	6,000	4,000	3,200	bitter cherry-----	55
					mountain brome-----	15
					mountain big sagebrush-----	10
					snowberry-----	5
507: Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Fendersflat-----	South Slope 30+ P.z.	1,800	1,300	950	bluebunch wheatgrass-----	25
					needlegrass-----	15
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	15
					antelope bitterbrush-----	10
					miscellaneous shrubs-----	5
Fendersflat-----	Mountain Shoulders 30+ P.z.	1,200	900	650	bluebunch wheatgrass-----	15
					mountain brome-----	15
					needlegrass-----	10
					Sandberg bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
					roundleaf snowberry-----	10
					miscellaneous shrubs-----	5
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany---	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Nowack-----	---	800	600	400	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Skidbrackle-----	Claypan 30+ P.z.	1,000	800	600	Idaho fescue-----	20
					bluegrass-----	10
					miscellaneous perennial grasses	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
Fingerridge-----	Mountain Ridge 30+ P.z.	900	700	500	Idaho fescue-----	30
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Rock outcrop-----	---	---	---	---	---	---
Vitrandic Argicryolls---	Prunus Pocket	6,000	4,000	3,200	bitter cherry-----	55
					mountain brome-----	15
					mountain big sagebrush-----	10
					snowberry-----	5
508: Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Fendersflat-----	Ashy Slope 30+ P.z.	1,250	900	600	Idaho fescue-----	25
					miscellaneous perennial grasses	10
					Sandberg bluegrass-----	5
					sedge-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome----- miscellaneous perennial forbs-- quaking aspen----- mountain big sagebrush----- roundleaf snowberry-----	15 10 55 5 5
Pyropatti-----	---	800	600	400	---	---
Boulderfan-----	Moist Mountain Basin	1,400	1,200	800	needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- silver sagebrush----- roundleaf snowberry-----	35 10 10 30 5
Lyonman, cool-----	---	500	350	200	---	---
Skidbrackle-----	Claypan 30+ P.z.	1,000	800	600	Idaho fescue----- bluegrass----- miscellaneous perennial grasses Thurber's needlegrass----- miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	20 10 10 5 10 30 5
Dismalswamp-----	Semi-Wet Meadow 16+ P.z.	4,000	3,000	2,000	Nebraska sedge----- tufted hairgrass----- sedge----- Baltic rush----- meadow barley----- miscellaneous perennial forbs-- silver sagebrush----- willow-----	20 20 10 5 5 15 5 5
Rock outcrop-----	---	---	---	---	---	---
509: Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome----- needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs----- roundleaf snowberry-----	20 20 5 5 10 25 5 5
Fingerridge-----	Mountain Ridge 30+ P.z.	900	700	500	Idaho fescue----- Sandberg bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	30 10 10 35

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Fendersflat-----	Mountain Shoulders 30+ P.z.	1,200	900	650	bluebunch wheatgrass-----	15
					mountain brome-----	15
					needlegrass-----	10
					Sandberg bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
					roundleaf snowberry-----	10
					miscellaneous shrubs-----	5
Skidbrackle-----	Claypan 30+ P.z.	1,000	800	600	Idaho fescue-----	20
					bluegrass-----	10
					miscellaneous perennial grasses	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	30
					miscellaneous shrubs-----	5
Vitrandic Cryorthents---	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany---	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Dismalswamp-----	Semi-Wet Meadow 16+ P.z.	4,000	3,000	2,000	Nebraska sedge-----	20
					tufted hairgrass-----	20
					sedge-----	10
					Baltic rush-----	5
					meadow barley-----	5
					miscellaneous perennial forbs--	15
					silver sagebrush-----	5
					willow-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Rock outcrop-----	---	---	---	---	---	---
Vitrandic Cryorthents---	Snow Pocket	500	300	200	needlegrass-----	25
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	30
					miscellaneous shrubs-----	15
					buckwheat-----	5
					yellow rabbitbrush-----	5
520: Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
needlegrass-----					20	
bluegrass-----					5	
miscellaneous perennial grasses					5	
miscellaneous perennial forbs--					10	
mountain big sagebrush-----					25	
miscellaneous shrubs-----					5	
roundleaf snowberry-----					5	
Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Fingerridge-----	Mountain Ridge 30+ P.z.	900	700	500	Idaho fescue-----	30
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany---	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
					Pyropatti-----	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Aquandic Cryaquolls-----	Willow Thicket	9,000	6,000	5,000	carex----- miscellaneous perennial grasses miscellaneous perennial forbs-- willow----- miscellaneous shrubs-----	15 10 10 55 5
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge----- rush----- miscellaneous perennial grasses tufted hairgrass----- miscellaneous perennial forbs--	40 15 10 5 20
Rock outcrop-----	---	---	---	---	---	---
521: Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome----- needlegrass----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs----- roundleaf snowberry-----	20 20 5 5 10 25 5 5
Skidbrackles-----	Claypan 30+ P.z.	1,000	800	600	Idaho fescue----- bluegrass----- miscellaneous perennial grasses Thurber's needlegrass----- miscellaneous perennial forbs-- low sagebrush----- miscellaneous shrubs-----	20 10 10 5 10 30 5
Fingerridge, cool-----	Cobbly Claypan 30+ P.z.	500	400	300	Sandberg bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	30 15 40
Pyropatti-----	---	800	600	400	---	---
Gurlidawg-----	---	450	300	150	---	---
Boulderfan-----	Moist Mountain Basin	1,400	1,200	800	needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- silver sagebrush----- roundleaf snowberry-----	35 10 10 30 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
Lithic Xerorthents-----	Eroded Slope 30+ P.z.	300	200	100	Cusick's bluegrass-----	25
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	25
					goldenbush-----	20
					miscellaneous shrubs-----	10
Rock outcrop-----	---	---	---	---	---	---
Vitrandic Haplocryolls--	Streambank	7,800	6,000	5,000	sedge-----	10
					tufted hairgrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					willow-----	50
522: Paypoint-----	Loamy Fan 10-12 P.z.	1,200	900	600	Woods' rose-----	5
					bluegrass-----	30
					needlegrass-----	25
					miscellaneous perennial grasses	10
					basin wildrye-----	5
Langston-----	Loamy 8-10 P.z.	800	600	400	big sagebrush-----	20
					Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
Longdis-----	Sodic Terrace 8-10 P.z.	800	600	350	Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
					basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
Davey-----	Sandy 8-12 P.z.	1,000	800	600	miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
					needleandthread-----	30
					Indian ricegrass-----	20
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
					spiny hopsage-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Aridic Argixerolls-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
523: Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Rock outcrop-----	---	---	---	---	---	---
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Aridic Haploxerolls-----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye-----	70
					Nevada bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Aridic Haploxerolls-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
524: Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Nosavvy-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass----- miscellaneous perennial grasses bottlebrush squirreltail----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	20 15 5 10 30 15
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Sedsked-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
525: Pits, gravel-----	---	---	---	---	---	---
526: Pits, mine-----	---	---	---	---	---	---
Dumps, mine-----	---	---	---	---	---	---
Jaybee-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Rock outcrop-----	---	---	---	---	---	---
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
527: Playas-----	---	---	---	---	---	---
528: Pyropatti, cool-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5
Pyropatti-----	---	800	600	400	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Vitrandic Haplocryolls--	---	2,000	1,500	1,000	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Aquandic Cryaquolls-----	Willow Thicket	9,000	6,000	5,000	carex-----	15
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					willow-----	55
					miscellaneous shrubs-----	5
Boulderfan-----	Moist Mountain Basin	1,400	1,200	800	needlegrass-----	35
					miscellaneous perennial grasses	10
					miscellaneous perennial forbs--	10
					silver sagebrush-----	30
					roundleaf snowberry-----	5
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20
529: Raglan-----	Loamy 5-8 P.z.	600	450	300	Indian ricegrass-----	10
					bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
					miscellaneous shrubs-----	10
Couch-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass-----	40
					Lemmon's alkaligrass-----	30
					inland saltgrass-----	10
					miscellaneous perennial grasses	10
					basin wildrye-----	5
Hovey-----	---	---	---	---	-----	---
Lolak-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Hussa-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
530: Raglan-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					shadscale-----	45
					black greasewood-----	25
					bud sagebrush-----	5
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition					
		Favorable year	Normal year	Unfavorable year							
		Lb/acre	Lb/acre	Lb/acre		Pct					
Crutcher-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50					
					Nevada bluegrass-----	20					
					inland saltgrass-----	15					
					black greasewood-----	10					
Crutcher-----	Sodic Bottom	1,400	1,000	700	basin wildrye-----	15					
					alkali sacaton-----	10					
					inland saltgrass-----	10					
					miscellaneous perennial grasses	5					
					silver buffaloberry-----	25					
					black greasewood-----	15					
					miscellaneous shrubs-----	5					
Nomazu, moderately saline-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail-----	5					
					miscellaneous perennial grasses	5					
					miscellaneous perennial forbs--	5					
					shadscale-----	45					
					black greasewood-----	25					
					bud sagebrush-----	5					
					miscellaneous shrubs-----	5					
					Isolde-----	Sodic Dunes	600	400	200	Indian ricegrass-----	25
										basin wildrye-----	5
										needleandthread-----	5
miscellaneous perennial grasses	5										
miscellaneous perennial forbs--	5										
black greasewood-----	35										
spiny hopsage-----	10										
miscellaneous shrubs-----	5										
Mazuma-----	Gravelly Loam 5-8 P.z.	900	700	500	Indian ricegrass-----	15					
					bottlebrush squirreltail-----	5					
					miscellaneous shrubs-----	5					
					shadscale-----	40					
					spiny hopsage-----	20					
531: Raglan-----	Sodic Terrace 6-8 P.z.	600	450	300	bottlebrush squirreltail-----	5					
					miscellaneous perennial grasses	5					
					miscellaneous perennial forbs--	5					
					shadscale-----	45					
					black greasewood-----	25					
					bud sagebrush-----	5					
miscellaneous shrubs-----	5										

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Isolde-----	Sodic Dunes	600	400	200	Indian ricegrass-----	25
					basin wildrye-----	5
					needleandthread-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	35
					spiny hopsage-----	10
Mazuma-----	Shallow Silty 5-8 P.z.	300	200	75	miscellaneous shrubs-----	5
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					shadscale-----	75
Xeric Haplocambids-----	Droughty Loam 8-10 P.z.	700	450	300	miscellaneous shrubs-----	5
					Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
Duric Torriorthents-----	Dry Floodplain	1,500	1,100	600	miscellaneous shrubs-----	5
					basin wildrye-----	55
					creeping wildrye-----	5
					miscellaneous perennial grasses	5
					western wheatgrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
					black greasewood-----	5
miscellaneous shrubs-----	5					
532: Raglan-----	Sodic Terrace 6-8 P.z.	600	450	300	miscellaneous shrubs-----	5
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					shadscale-----	45
					black greasewood-----	25
Mazuma-----	Gravelly Loam 5-8 P.z.	900	700	500	bud sagebrush-----	5
					miscellaneous shrubs-----	5
					Indian ricegrass-----	15
					bottlebrush squirreltail-----	5
					miscellaneous shrubs-----	5
					shadscale-----	40
					spiny hopsage-----	20
					bud sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Isolde-----	Sodic Dunes	600	400	200	Indian ricegrass-----	25
					basin wildrye-----	5
					needleandthread-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	35
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Veta-----	Dry Floodplain	1,500	1,100	600	basin wildrye-----	55
					creeping wildrye-----	5
					miscellaneous perennial grasses	5
					western wheatgrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
					black greasewood-----	5
					miscellaneous shrubs-----	5
Xeric Haplocambids-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
					Skullwak-----	Saline Meadow
Lemmon's alkaligrass-----	30					
inland saltgrass-----	10					
miscellaneous perennial grasses	10					
basin wildrye-----	5					
533: Redhome-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
					Cowbell-----	Mahogany Savanna
bluebunch wheatgrass-----	10					
Cusick's bluegrass-----	5					
needlegrass-----	5					
curlleaf mountainmahogany-----	40					
mountain big sagebrush-----	5					

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5
Harskel-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Crocan-----	---	500	300	200	Cusick's bluegrass-----	2
534: Redhome-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Hart Camp, moist-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					basin wildrye-----	10
					needlegrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Crocan-----	---	500	300	200	Cusick's bluegrass-----	2
Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10
535: Reywat-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Brubeck-----	Clayey 10-14 P.z.	800	600	350	thickspike wheatgrass-----	20
					bottlebrush squirreltail-----	15
					creeping wildrye-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					basin big sagebrush-----	20
					littleleaf horsebrush-----	5
					miscellaneous shrubs-----	5
					rubber rabbitbrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
536: Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Fiddler-----	---	700	500	300	---	---
Hartig-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass----- needlegrass----- basin wildrye----- mountain big sagebrush-----	60 10 5 10
537: Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Esmod-----	Gravelly Claypan 10-12 P.z.	600	450	300	Thurber's needlegrass----- Webber needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 5 5 10 25
Grassyca-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass----- Webber needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush-----	40 5 5 10 35

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
538: Reywat-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Fernpoint-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Langston-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Orr-----	Loamy Fan 10-12 P.z.	1,200	900	600	bluegrass-----	30
					needlegrass-----	25
					miscellaneous perennial grasses	10
					basin wildrye-----	5
					big sagebrush-----	20

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
539: Reywat-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15
Marepas-----	---	600	450	300	---	---
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 15 10 15 10 5
Hart Camp, moist-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5
540: Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Rock outcrop-----	---	---	---	---	---	---
Marepas-----	---	600	450	300	---	---
Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
Dodie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
541: Rubble land-----	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---
Fivesprings-----	Stony Loam 9-12"	1,200	900	600	bluebunch wheatgrass-----	60
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	5
					basin wildrye-----	5
					mountain big sagebrush-----	5
Fiddler-----	Stony Loam 12-16"	1,000	800	600	Idaho fescue-----	15
					Nevada bluegrass-----	10
					bluebunch wheatgrass-----	10
					mountain big sagebrush-----	10
					Sandberg bluegrass-----	5
					Thurber's needlegrass-----	5
					antelope bitterbrush-----	5
					arrowleaf balsamroot-----	5
					bottlebrush squirreltail-----	5
					rabbitbrush-----	5
					Longcreek-----	Stony Loam 9-12"
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	5
					basin wildrye-----	5
					mountain big sagebrush-----	5
Fredonyer-----	Very Stony Loam 12-16"	1,500	1,000	700	Idaho fescue-----	45
					curl-leaf mountain mahogany----	30
					mountain big sagebrush-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
542: Rodock-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye----- western wheatgrass----- Nevada bluegrass----- miscellaneous perennial forbs-- basin big sagebrush-----	55 15 5 5 10
Davey-----	Sandy 8-12 P.z.	1,000	800	600	needleandthread----- Indian ricegrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush----- spiny hopsage-----	30 20 5 10 15 5
Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5
Gorzell-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Riverwash-----	---	---	---	---	---	---
543: Rubble land-----	---	---	---	---	---	---
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass----- needlegrass----- basin wildrye----- mountain big sagebrush-----	60 10 5 10
Menbo-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass-----	30
					basin wildrye-----	15
					needlegrass-----	10
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	10
					antelope bitterbrush-----	5
544: Rubble land-----	---	---	---	---	---	---
Home Camp-----	Stony South Slope 12-16 P.z.	1,200	1,000	800	bluebunch wheatgrass-----	40
					basin wildrye-----	30
					needlegrass-----	10
					mountain big sagebrush-----	15
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Cowbell-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
					mountain big sagebrush-----	5
Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
					snowberry-----	5
Nowack-----	---	800	600	400	---	---
545: Rubble land-----	---	---	---	---	---	---
Paynepeak-----	Loamy Slope 30+ P.z.	1,800	1,500	1,100	mountain brome-----	20
					needlegrass-----	20
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
					miscellaneous shrubs-----	5
					roundleaf snowberry-----	5
Rock outcrop-----	---	---	---	---	---	---
Fendersflat-----	Mountain Shoulders 30+ P.z.	1,200	900	650	bluebunch wheatgrass-----	15
					mountain brome-----	15
					needlegrass-----	10
					Sandberg bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	20
					roundleaf snowberry-----	10
					miscellaneous shrubs-----	5
Pyropatti-----	Aspen Thicket	5,000	3,500	2,700	mountain brome-----	15
					miscellaneous perennial forbs--	10
					quaking aspen-----	55
					mountain big sagebrush-----	5
					roundleaf snowberry-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Gurlidawg-----	---	450	300	150	---	---
Lotawaca-----	---	800	600	400	---	---
546: Runyon-----	Cool Loam 12-16"	2,200	1,800	1,400	Idaho fescue-----	50
					Canby bluegrass-----	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
Hapgood-----	Cool Loam 12-16"	2,200	1,800	1,400	Idaho fescue-----	50
					Canby bluegrass-----	10
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
Home Camp-----	Stony Loam 12-16"	1,800	1,400	1,000	bluebunch wheatgrass-----	30
					Idaho fescue-----	25
					needlegrass-----	25
					antelope bitterbrush-----	10
					mountain big sagebrush-----	5
Ninemile-----	Shallow Stony Loam 12-16"	1,000	700	400	Idaho fescue-----	35
					bluebunch wheatgrass-----	15
					bluegrass-----	10
					Thurber's needlegrass-----	5
					bottlebrush squirreltail-----	5
					balsamroot-----	5
					low sagebrush-----	20
					antelope bitterbrush-----	5
547: Saltmount-----	Sodic Flat 6-8 P.z.	500	350	200	basin wildrye-----	10
					inland saltgrass-----	5
					black greasewood-----	65
					miscellaneous shrubs-----	10
Saltmount-----	Sodic Flat 6-8 P.z.	500	350	200	basin wildrye-----	10
					inland saltgrass-----	5
					black greasewood-----	65
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
548: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Ashcamp-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass----- bluebunch wheatgrass----- Idaho fescue----- big sagebrush----- antelope bitterbrush-----	35 20 15 15 5
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5
Chalco-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5
Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Leviathan-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass----- Thurber's needlegrass----- miscellaneous perennial forbs-- big sagebrush-----	35 25 10 15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
549: Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Macnot, nearly level----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye----- thickspike wheatgrass----- miscellaneous perennial forbs-- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	50 5 5 15 5 5
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
550: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Chalco-----	Shallow Calcareous Loam 8-12 P.z.	700	500	300	Thurber's needlegrass----- bluebunch wheatgrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- black sagebrush----- miscellaneous shrubs-----	20 20 5 10 25 5
Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Brubeck-----	Clayey 10-14 P.z.	800	600	350	thickspike wheatgrass----- bottlebrush squirreltail----- creeping wildrye----- miscellaneous perennial grasses miscellaneous perennial forbs-- basin big sagebrush----- littleleaf horsebrush----- miscellaneous shrubs----- rubber rabbitbrush-----	20 15 5 5 10 20 5 5 5
Rock outcrop-----	---	---	---	---	---	---
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
551: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Chalco-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Bombadil-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Fulstone-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Bitner-----	Ashy Sandy Loam 10-12 P.z.	1,100	900	600	Thurber's needlegrass-----	35
					bluebunch wheatgrass-----	20
					Idaho fescue-----	15
					big sagebrush-----	15
					antelope bitterbrush-----	5
552: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Hangrock-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Tuffo-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Vitriixerandic Haplargids	Loamy Fan 10-12 P.z.	1,200	900	600	bluegrass-----	30
					needlegrass-----	25
					miscellaneous perennial grasses	10
					basin wildrye-----	5
					big sagebrush-----	20
Fulstone-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Xeric Torriorthents----	Gravelly Clay 8-10 P.z.	400	275	150	Thurber's needlegrass-----	20
					Indian ricegrass-----	5
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					spiny hopsage-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					ephedra-----	5
					miscellaneous shrubs-----	5
Badland-----	---	---	---	---	---	---
553: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Macnot, nearly level----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Tuffo-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
554: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Nosavvy-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Tuffo-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

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		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Cormol-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
555: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Macnot, nearly level----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
556: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Tuffo-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Nosavvy-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass-----	20
					miscellaneous perennial grasses	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	30
					miscellaneous shrubs-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
557: Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Tuffo-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Yellowhills-----	Ashy Loam 10-12 P.z.	1,400	1,100	800	Idaho fescue-----	45
					Thurber's needlegrass-----	10
					basin wildrye-----	5
					bluebunch wheatgrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	15
					miscellaneous shrubs-----	5
Badland-----	---	---	---	---	---	---
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
558: Schamp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Davey-----	Sandy 8-12 P.z.	1,000	800	600	needleandthread-----	30
					Indian ricegrass-----	20
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
					spiny hopsage-----	5
Langston-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
559: Schamp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Zymans-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
McConnel-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5
Chime-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
560: Sedsked-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Skedaddle-----	Chalky Knoll	350	200	100	Indian ricegrass----- miscellaneous perennial grasses bottlebrush squirreltail----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	20 15 5 10 30 15
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass----- Thurber's needlegrass----- basin wildrye----- Wyoming big sagebrush----- antelope bitterbrush-----	45 15 5 15 5
Gorzell-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
Bombadil-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass----- Indian ricegrass----- Sandberg bluegrass----- bottlebrush squirreltail----- Wyoming big sagebrush----- spiny hopsage----- miscellaneous shrubs-----	20 10 5 5 30 10 5
561: Simpson-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Simpson-----	Well Drained Fan 12-14 P. z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Surprise-----	Well Drained Fan 12-14 P. z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Nevadash-----	Loamy 8-10 P. z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
562: Simpson-----	Well Drained Fan 12-14 P. z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Surprise-----	Well Drained Fan 12-14 P. z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Couch-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass-----	40
					Lemmon's alkaligrass-----	30
					inland saltgrass-----	10
					miscellaneous perennial grasses	10
					basin wildrye-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Nevadash-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
563: Simpson-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Bidwell-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Hussa-----	---	---	---	---	---	---
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	15
					antelope bitterbrush-----	15
					big sagebrush-----	15
					miscellaneous perennial forbs--	10
					bluegrass-----	5
					miscellaneous shrubs-----	5
Fluvaquents-----	---	3,000	2,200	1,500	---	---

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
564: Skullwak-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass----- Lemmon's alkaligrass----- inland saltgrass----- miscellaneous perennial grasses basin wildrye-----	40 30 10 10 5
Updike-----	Saline Bottom	2,200	1,700	1,000	basin wildrye----- Nevada bluegrass----- inland saltgrass----- black greasewood-----	50 20 15 10
Longdis-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye----- bottlebrush squirreltail----- miscellaneous perennial grasses miscellaneous perennial forbs-- black greasewood----- big sagebrush----- miscellaneous shrubs----- spiny hopsage-----	15 5 5 5 25 20 5 5
565: Snag-----	Loamy 16+ P.z.	2,200	1,800	1,500	mountain brome----- needlegrass----- Idaho fescue----- basin wildrye----- bluegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs----- snowberry-----	25 15 5 5 5 5 10 10 5 5
Brownsbowl-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue----- mountain brome----- needlegrass----- melic----- miscellaneous perennial forbs-- mountain big sagebrush----- miscellaneous shrubs-----	15 15 15 5 15 15 5
Hashwoods-----	---	800	600	400	---	---
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- basin wildrye----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 5 5 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
567: Softscrabble-----	Loamy 14-16 P.z.	1,600	1,200	900	Idaho fescue----- bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 10 5 10 5
Dosie-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass----- needlegrass----- basin wildrye----- mountain big sagebrush-----	60 10 5 10
Hutchley-----	Mountain Ridge	400	250	200	Idaho fescue----- bluebunch wheatgrass----- needlegrass----- basin wildrye----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 30 10 5 5 10 5
Rock outcrop-----	---	---	---	---	---	---
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Cumulic Cryaquolls-----	Wet Meadow 16+ P.z.	4,000	3,000	2,000	---	---
Lithic Argixerolls-----	Mahogany Savanna	2,600	2,000	1,200	Idaho fescue----- bluebunch wheatgrass----- Cusick's bluegrass----- needlegrass----- curlleaf mountainmahogany----- mountain big sagebrush-----	25 10 5 5 40 5
568: Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 15 10 15 10 5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Aridic Argixerolls-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
Thulepah-----	Loamy 16+ P.z.	2,200	1,800	1,500	miscellaneous shrubs-----	5
					mountain brome-----	25
					needlegrass-----	15
					Idaho fescue-----	5
					basin wildrye-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	snowberry-----	5
					bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
antelope bitterbrush-----	5					
570: Soughe-----	Loamy 8-10 P.z.	800	600	400	antelope bitterbrush-----	5
					Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
miscellaneous shrubs-----	10					
Rock outcrop-----	---	---	---	---	---	---
Uhaldi-----	Loamy 10-12 P.z.	1,100	900	600	big sagebrush-----	15
					bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
Chime-----	Droughty Loam 8-10 P.z.	700	450	300	Wyoming big sagebrush-----	30
					Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					spiny hopsage-----	10
miscellaneous shrubs-----	5					

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pachic Haploxerolls-----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye-----	70
					Nevada bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
571: Soughe-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Rock outcrop-----	---	---	---	---	---	---
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
572: Steerlake-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Reywat-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Nitpac-----	Cobbly Claypan 8-12 P.z.	500	375	250	bluebunch wheatgrass-----	25
					Thurber's needlegrass-----	15
					Webber needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	25

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
573: Steerlake-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Bucklake-----	Loamy Slope 10-14 P.z.	1,000	700	450	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	15
					basin wildrye-----	5
					Wyoming big sagebrush-----	15
					antelope bitterbrush-----	5
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
574: Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Bidwell-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Hussa-----	---	---	---	---	---	---
Four Star-----	---	---	---	---	---	---
575: Surprise-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Bidwell-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Donica-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Simpson-----	Well Drained Fan 12-14 P.z.	1,400	1,100	900	bluebunch wheatgrass----- Thurber's needlegrass----- antelope bitterbrush----- big sagebrush----- miscellaneous perennial forbs-- bluegrass----- miscellaneous shrubs-----	30 15 15 15 10 5 5
Fluvaquents-----	---	3,000	2,200	1,500	---	---
576: Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass----- Thurber's needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush-----	25 10 5 5 45
Nitpac-----	Cobbly Claypan 8-12 P.z.	500	375	250	bluebunch wheatgrass----- Thurber's needlegrass----- Webber needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	25 15 5 5 10 25
Bidrim-----	---	500	300	200	---	---
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail----- Sandberg bluegrass----- miscellaneous perennial forbs-- Washoe rubber rabbitbrush----- low sagebrush----- miscellaneous shrubs-----	15 10 10 45 5 5
Softscrabble-----	Loamy 12-14 P.z.	1,600	1,300	1,000	bluebunch wheatgrass----- basin wildrye----- needlegrass----- miscellaneous perennial forbs-- mountain big sagebrush----- antelope bitterbrush-----	30 15 10 15 10 5
Fiddler-----	---	700	500	300	---	---

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Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
577: Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail----- Sandberg bluegrass----- miscellaneous perennial forbs-- Washoe rubber rabbitbrush----- low sagebrush----- miscellaneous shrubs-----	15 10 10 45 5 5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	45 25 5 5 15
Bidrim-----	---	500	300	200	---	---
Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass----- Thurber's needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush-----	25 10 5 5 45
Nitpac-----	Cobbly Claypan 8-12 P.z.	500	375	250	bluebunch wheatgrass----- Thurber's needlegrass----- Webber needlegrass----- bluegrass----- miscellaneous perennial forbs-- low sagebrush-----	25 15 5 5 10 25
Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
578: Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail----- Sandberg bluegrass----- miscellaneous perennial forbs-- Washoe rubber rabbitbrush----- low sagebrush----- miscellaneous shrubs-----	15 10 10 45 5 5
Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass----- Thurber's needlegrass----- miscellaneous perennial grasses miscellaneous perennial forbs-- low sagebrush-----	25 10 5 5 45

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Grassycan-----	Scabland 10-14 P.z.	300	200	150	Sandberg bluegrass-----	40
					Webber needlegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	35
Bidrim-----	---	500	300	200	---	---
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Rock outcrop-----	---	---	---	---	---	---
579: Tusune-----	Steep North Slope	1,500	1,200	900	Idaho fescue-----	50
					Cusick's bluegrass-----	15
					bluebunch wheatgrass-----	10
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Hartig-----	South Slope 12-16 P.z.	1,500	1,200	800	bluebunch wheatgrass-----	60
					needlegrass-----	10
					basin wildrye-----	5
					mountain big sagebrush-----	10
Rubble land-----	---	---	---	---	---	---
Hart Camp-----	Stony Loam 12-14 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					needlegrass-----	10
					miscellaneous perennial forbs--	10
					antelope bitterbrush-----	20
					mountain big sagebrush-----	10

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ninemile-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5
Cumulic Haploxerolls----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye-----	70
					Nevada bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
580: Updike-----	Sodic Flat 8-10 P.z.	700	450	300	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					inland saltgrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	50
					miscellaneous shrubs-----	5
Longdis-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Updike-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
Playas-----	---	---	---	---	---	---
581: Updike-----	Sodic Flat 8-10 P.z.	700	450	300	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					inland saltgrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	50
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Mazuma-----	Gravelly Loam 5-8 P.z.	900	700	500	Indian ricegrass-----	15
					bottlebrush squirreltail-----	5
					miscellaneous shrubs-----	5
					shadscale-----	40
					spiny hopsage-----	20
					bud sagebrush-----	10
Longdis-----	Clay Basin	1,800	1,500	1,000	Nevada bluegrass-----	45
					wildrye-----	15
					mat muhly-----	5
					miscellaneous perennial forbs--	10
					silver sagebrush-----	10
Skullwak-----	Saline Meadow	1,300	1,000	700	Nevada bluegrass-----	40
					Lemmon's alkaligrass-----	30
					inland saltgrass-----	10
					miscellaneous perennial grasses	10
					basin wildrye-----	5
Mazuma-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
582: Valmy-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Nevadash-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Zorravista-----	Dunes 8-10 P.z.	900	700	400	Indian ricegrass-----	35
					basin wildrye-----	10
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	15
					spiny hopsage-----	10
					fourwing saltbush-----	5
					miscellaneous shrubs-----	5
583: Warnermount, warm-----	Ashy Slope 16-30 P.z.	1,500	1,200	900	Idaho fescue-----	25
					bluebunch wheatgrass-----	20
					Nevada bluegrass-----	10
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	15
					antelope bitterbrush-----	10
Burningman-----	Ashy Claypan 16-30 P.z.	1,100	800	500	bluebunch wheatgrass-----	15
					Idaho fescue-----	10
					Thurber's needlegrass-----	10
					bluegrass-----	5
					prairie Junegrass-----	5
					miscellaneous perennial forbs--	10
					low sagebrush-----	20
					antelope bitterbrush-----	5
					western juniper-----	5
Pyropatti-----	---	800	600	400	---	---
Dawgbuffer-----	Mahogany Savanna	3,500	2,700	1,800	needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					mountain brome-----	5
					miscellaneous perennial forbs--	10
					curl-leaf mountain mahogany---	40
					mountain big sagebrush-----	10
					miscellaneous trees-----	5
					roundleaf snowberry-----	5
Histic Cryaquolls-----	Seep	4,000	3,000	2,000	sedge-----	40
					rush-----	15
					miscellaneous perennial grasses	10
					tufted hairgrass-----	5
					miscellaneous perennial forbs--	20

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
584: Warnermount-----	Loamy Slope 16-30 P.z.	2,400	2,000	1,500	needlegrass----- bluebunch wheatgrass----- mountain brome----- bluegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	20 10 10 5 10 20 15
Burningman-----	Ashy Claypan 16-30 P.z.	1,100	800	500	bluebunch wheatgrass----- Idaho fescue----- Thurber's needlegrass----- bluegrass----- prairie Junegrass----- miscellaneous perennial forbs-- low sagebrush----- antelope bitterbrush----- western juniper-----	15 10 10 5 5 10 20 5 5
Lithic Argixerolls-----	---	700	500	300	---	---
Pyropatti-----	---	800	600	400	---	---
Dismalswamp-----	Semi-Wet Meadow 16+ P.z.	4,000	3,000	2,000	Nebraska sedge----- tufted hairgrass----- sedge----- Baltic rush----- meadow barley----- miscellaneous perennial forbs-- silver sagebrush----- willow-----	20 20 10 5 5 15 5 5
Rock outcrop-----	---	---	---	---	---	---
585: Warnermount-----	Loamy Slope 16-30 P.z.	2,400	2,000	1,500	needlegrass----- bluebunch wheatgrass----- mountain brome----- bluegrass----- miscellaneous perennial forbs-- antelope bitterbrush----- mountain big sagebrush-----	20 10 10 5 10 20 15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Vitrandic Argicryolls---	Prunus Pocket	6,000	4,000	3,200	bitter cherry-----	55
					mountain brome-----	15
					mountain big sagebrush-----	10
					snowberry-----	5
Vitrandic Haploxerolls--	---	2,000	1,500	1,000	---	---
587: Weezweed-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Emagert-----	Loamy Bottom 8-12 P.z.	7,000	4,500	2,500	basin wildrye-----	70
					Nevada bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Wetvit-----	Wet Meadow 10-14 P.z.	4,000	3,000	2,000	Nevada bluegrass-----	45
					creeping wildrye-----	20
					sedge-----	15
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
Jesayno-----	Dry Floodplain	3,000	2,000	1,300	basin wildrye-----	55
					western wheatgrass-----	15
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	10
Macnot-----	Loamy Fan 8-10 P.z.	1,000	700	500	basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
					big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Crutcher-----	Saline Bottom	2,200	1,700	1,000	basin wildrye-----	50
					Nevada bluegrass-----	20
					inland saltgrass-----	15
					black greasewood-----	10
588: Weimer-----	Wet Clay Basin	1,500	400	0	other annual forbs-----	60
					miscellaneous perennial forbs--	10
					mat muhly-----	5
					miscellaneous perennial grasses	5
					povertyweed-----	5
Boulder Lake-----	Clay Basin	1,800	1,500	1,000	Nevada bluegrass-----	45
					wildrye-----	15
					mat muhly-----	5
					miscellaneous perennial forbs--	10
					silver sagebrush-----	10
Grimlake-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
Macyflet-----	Clay Plain	900	700	450	Cusick's bluegrass-----	25
					needlegrass-----	25
					basin wildrye-----	10
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					early sagebrush-----	20
589: Weimer-----	Wet Clay Basin	1,500	400	0	other annual forbs-----	60
					miscellaneous perennial forbs--	10
					mat muhly-----	5
					miscellaneous perennial grasses	5
					povertyweed-----	5
Boulder Lake-----	Clay Basin	1,800	1,500	1,000	Nevada bluegrass-----	45
					wildrye-----	15
					mat muhly-----	5
					miscellaneous perennial forbs--	10
					silver sagebrush-----	10
Welch-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Macyflet-----	Clay Plain	900	700	450	Cusick's bluegrass-----	25
					needlegrass-----	25
					basin wildrye-----	10
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					early sagebrush-----	20
590: Weimer-----	Wet Clay Basin	1,500	400	0	other annual forbs-----	60
					miscellaneous perennial forbs--	10
					mat muhly-----	5
					miscellaneous perennial grasses	5
					povertyweed-----	5
Grimlake-----	Dry Meadow	2,200	1,700	1,300	Nevada bluegrass-----	45
					miscellaneous perennial grasses	20
					sedge-----	15
					miscellaneous perennial forbs--	15
Aeric Epiaquents-----	Wet Clay Basin	1,500	400	0	other annual forbs-----	60
					miscellaneous perennial forbs--	10
					mat muhly-----	5
					miscellaneous perennial grasses	5
					povertyweed-----	5
Boulder Lake-----	Clay Basin	1,800	1,500	1,000	Nevada bluegrass-----	45
					wildrye-----	15
					mat muhly-----	5
					miscellaneous perennial forbs--	10
					silver sagebrush-----	10
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Macyflet-----	Clay Plain	900	700	450	Cusick's bluegrass-----	25
					needlegrass-----	25
					basin wildrye-----	10
					Nevada bluegrass-----	5
					miscellaneous perennial forbs--	5
					early sagebrush-----	20

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Old Camp-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass-----	25
					miscellaneous perennial grasses	15
					Indian ricegrass-----	10
					miscellaneous perennial forbs--	10
					Wyoming big sagebrush-----	20
					miscellaneous shrubs-----	10
Halvert-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
594: Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Chalco-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Dumps, mine-----	---	---	---	---	---	---
Jaybee-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
595: Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5
Chalco-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass----- Indian ricegrass----- Webber needlegrass----- miscellaneous perennial forbs-- Lahontan sagebrush----- miscellaneous shrubs-----	35 5 5 5 30 5
Saraph-----	Loamy 8-10 P.z.	800	600	400	Thurber's needlegrass----- miscellaneous perennial grasses Indian ricegrass----- miscellaneous perennial forbs-- Wyoming big sagebrush----- miscellaneous shrubs-----	25 15 10 10 20 10
Rock outcrop-----	---	---	---	---	---	---
596: Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15
Pickup-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass----- Thurber's needlegrass----- bluegrass----- miscellaneous perennial forbs-- Lahontan sagebrush-----	50 10 5 10 15

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
598: Wylo-----	Clay Slope 8-12 P.z.	700	600	400	bluebunch wheatgrass-----	50
					Thurber's needlegrass-----	10
					bluegrass-----	5
					miscellaneous perennial forbs--	10
					Lahontan sagebrush-----	15
Rock outcrop-----	---	---	---	---	---	---
Devada-----	Claypan 10-14 P.z.	900	700	500	bluebunch wheatgrass-----	45
					Thurber's needlegrass-----	25
					bluegrass-----	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	15
Ceejay-----	Gravelly Clay 10-12 P.z.	600	400	200	Thurber's needlegrass-----	35
					Indian ricegrass-----	5
					Webber needlegrass-----	5
					miscellaneous perennial forbs--	5
					Lahontan sagebrush-----	30
					miscellaneous shrubs-----	5
Tunnison-----	Churning Clay	350	225	150	bottlebrush squirreltail-----	15
					Sandberg bluegrass-----	10
					miscellaneous perennial forbs--	10
					Washoe rubber rabbitbrush-----	45
					low sagebrush-----	5
					miscellaneous shrubs-----	5
Tuledad-----	Very Cobbly Claypan	350	275	200	Sandberg bluegrass-----	25
					Thurber's needlegrass-----	10
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	45
600: Zorravista-----	Dunes 8-10 P.z.	900	700	400	Indian ricegrass-----	35
					basin wildrye-----	10
					miscellaneous perennial forbs--	5
					basin big sagebrush-----	15
					spiny hopsage-----	10
					fourwing saltbush-----	5
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Pegler-----	Droughty Loam 8-10 P.z.	700	450	300	Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
Couch-----	Sodic Terrace 8-10 P.z.	800	600	350	miscellaneous shrubs-----	5
					basin wildrye-----	15
					bottlebrush squirreltail-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	25
Gorzell-----	Droughty Loam 8-10 P.z.	700	450	300	big sagebrush-----	20
					miscellaneous shrubs-----	5
					spiny hopsage-----	5
					Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
Raglan-----	Loamy 5-8 P.z.	600	450	300	bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
					miscellaneous shrubs-----	10
					Indian ricegrass-----	10
					601: Zorravista-----	Dunes 8-10 P.z.
basin wildrye-----	10					
miscellaneous perennial forbs--	5					
basin big sagebrush-----	15					
spiny hopsage-----	10					
fourwing saltbush-----	5					
Davey-----	Sandy 8-12 P.z.	1,000	800	600	miscellaneous shrubs-----	5
					needleandthread-----	30
					Indian ricegrass-----	20
					Thurber's needlegrass-----	5
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
					spiny hopsage-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Isolde-----	Sodic Dunes	600	400	200	Indian ricegrass-----	25
					basin wildrye-----	5
					needleandthread-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					black greasewood-----	35
					spiny hopsage-----	10
Pegler-----	Droughty Loam 8-10 P.z.	700	450	300	miscellaneous shrubs-----	5
					Thurber's needlegrass-----	20
					Indian ricegrass-----	10
					Sandberg bluegrass-----	5
					bottlebrush squirreltail-----	5
					Wyoming big sagebrush-----	30
					spiny hopsage-----	10
Nopeg-----	Loamy 5-8 P.z.	600	450	300	miscellaneous shrubs-----	5
					Indian ricegrass-----	10
					bottlebrush squirreltail-----	5
					shadscale-----	35
					bud sagebrush-----	25
Macnot, nearly level----	Loamy Fan 8-10 P.z.	1,000	700	500	miscellaneous shrubs-----	10
					basin wildrye-----	50
					thickspike wheatgrass-----	5
					miscellaneous perennial forbs--	5
					big sagebrush-----	15
602: Zorromount-----	Mahogany Savanna	2,600	2,000	1,200	miscellaneous shrubs-----	5
					spiny hopsage-----	5
					Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					Cusick's bluegrass-----	5
					needlegrass-----	5
					curlleaf mountainmahogany-----	40
Hutchley-----	Mountain Ridge	400	250	200	mountain big sagebrush-----	5
					Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					needlegrass-----	10
					basin wildrye-----	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
Zorromount, snowpocket--	Ceanothus Thicket	1,200	900	700	antelope bitterbrush-----	5
					miscellaneous perennial grasses	15
					miscellaneous perennial forbs--	10
					snowbrush ceanothus-----	65
					miscellaneous shrubs-----	5

TABLE 6.--Rangeland Productivity and Characteristic Plant Communities

Map symbol and soil name	Ecological site	Total dry-weight production			Characteristic vegetation	Rangeland composition
		Favorable year	Normal year	Unfavorable year		
		Lb/acre	Lb/acre	Lb/acre		Pct
Cavin-----	Mountain Shoulders 14-18 P.z.	900	700	500	Idaho fescue-----	25
					bluebunch wheatgrass-----	10
					needlegrass-----	10
					Cusick's bluegrass-----	5
					miscellaneous perennial forbs--	10
					mountain big sagebrush-----	25
Ashtre-----	Ashy Slope 12-14 P.z.	1,400	1,000	700	Idaho fescue-----	40
					needlegrass-----	10
					bluebunch wheatgrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Nutzan-----	Ashy Loam 14-16 P.z.	1,700	1,300	1,000	Idaho fescue-----	40
					needlegrass-----	20
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					antelope bitterbrush-----	10
					mountain big sagebrush-----	10
					miscellaneous shrubs-----	5
Newlands-----	Loamy Slope 16+ P.z.	1,800	1,500	1,100	Idaho fescue-----	15
					mountain brome-----	15
					needlegrass-----	15
					melic-----	5
					miscellaneous perennial forbs--	15
					mountain big sagebrush-----	15
					miscellaneous shrubs-----	5
603: Zymans-----	Loamy 10-12 P.z.	1,100	900	600	bluebunch wheatgrass-----	35
					Thurber's needlegrass-----	25
					miscellaneous perennial forbs--	10
					big sagebrush-----	15
Cotant-----	Claypan 14-16 P.z.	900	700	500	Idaho fescue-----	30
					bluebunch wheatgrass-----	30
					Thurber's needlegrass-----	5
					bluegrass-----	5
					miscellaneous perennial grasses	5
					miscellaneous perennial forbs--	5
					low sagebrush-----	10
					miscellaneous shrubs-----	5

TABLE 7.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
304: Crocan-----	western juniper-----	12	---	western juniper
323: Hashwoods-----	quaking aspen-----	40	19	quaking aspen
326: Fiddler-----	western juniper-----	17	15	western juniper
387: Fiddler-----	western juniper-----	17	15	western juniper
399: Fluvaquents-----	black cottonwood----	68	56	black cottonwood
411: Gurlidawg-----	lodgepole pine-----	50	40	lodgepole pine
412: Gurlidawg-----	lodgepole pine-----	50	40	lodgepole pine
413: Gurlidawg-----	lodgepole pine-----	50	40	lodgepole pine
414: Gurlidawg-----	whitebark pine-----	---	---	whitebark pine
448: Longval-----	lodgepole pine-----	68	57	lodgepole pine
449: Lotawaca-----	white fir-----	35	57	ponderosa pine, western white pine, white fir
450: Lotawaca-----	white fir-----	35	57	ponderosa pine, western white pine, white fir
451: Lyonman-----	ponderosa pine-----	75	62	ponderosa pine
452: Lyonman-----	ponderosa pine-----	75	62	ponderosa pine
453: Lyonman-----	Washoe pine-----	75	65	ponderosa pine, Washoe pine
454: Lyonman, cool-----	Washoe pine-----	75	65	ponderosa pine, Washoe pine
475: Crocan-----	western juniper-----	12	---	western juniper
476: Crocan-----	western juniper-----	12	---	western juniper

TABLE 7.--Forestland Productivity

Map symbol and soil name	Potential productivity			Trees to manage
	Common trees	Site index	Volume of wood fiber cu ft/ac	
477: Crocan-----	western juniper-----	12	---	western juniper
480: Crocan-----	western juniper-----	12	---	western juniper
482: Bidrim-----	western juniper-----	12	---	western juniper
487: Nowack-----	white fir-----	40	64	white fir
488: Nowack-----	white fir-----	40	64	white fir
489: Nowack-----	white fir-----	40	64	white fir
528: Pyropatti-----	quaking aspen-----	37	14	quaking aspen
539: Marepas-----	Utah juniper-----	40	3	Utah juniper
540: Marepas-----	Utah juniper-----	40	3	Utah juniper
565: Hashwoods-----	quaking aspen-----	40	19	quaking aspen
576: Bidrim-----	western juniper-----	12	---	western juniper
577: Bidrim-----	western juniper-----	12	---	western juniper

TABLE 8.--Forestland Site Preparation

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
304: Crocan-----	25	Unsuited Rock fragments Stickiness; high plasticity index	1.00 0.50	Unsuited Restrictive layer Rock fragments	1.00 1.00
323: Hashwoods-----	35	Well suited		Well suited	
326: Fiddler-----	20	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments Restrictive layer	0.50 0.50 0.50
387: Fiddler-----	25	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments Restrictive layer	1.00 0.50 0.50
399: Fluvaquents-----	50	Well suited		Unsuited Wetness	1.00
411: Gurlidawg-----	85	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
412: Gurlidawg-----	85	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
413: Gurlidawg-----	85	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
414: Gurlidawg-----	85	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
448: Longval-----	85	Poorly suited Slope	0.50	Poorly suited Slope	0.50

TABLE 8.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
449: Lotawaca-----	85	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope Rock fragments	1.00 0.50
450: Lotawaca-----	85	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope Rock fragments	0.50 0.50
451: Lyonman-----	85	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
452: Lyonman-----	85	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
453: Lyonman-----	85	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Slope	1.00
454: Lyonman, cool-----	85	Poorly suited Rock fragments Slope	0.50 0.50	Poorly suited Slope	0.50
475: Crocan-----	15	Unsuited Rock fragments Stickiness; high plasticity index	1.00 0.50	Unsuited Restrictive layer Rock fragments	1.00 1.00
476: Crocan-----	15	Unsuited Rock fragments Stickiness; high plasticity index	1.00 0.50	Unsuited Restrictive layer Rock fragments	1.00 1.00
477: Crocan-----	15	Unsuited Rock fragments Stickiness; high plasticity index	1.00 0.50	Unsuited Restrictive layer Rock fragments	1.00 1.00
480: Crocan-----	15	Unsuited Rock fragments Stickiness; high plasticity index	1.00 0.50	Unsuited Restrictive layer Rock fragments	1.00 1.00
482: Bidrim-----	15	Poorly suited Stickiness; high plasticity index Rock fragments	0.50 0.50	Unsuited Restrictive layer	1.00
487: Nowack-----	85	Unsuited Slope	1.00	Unsuited Slope	1.00
488: Nowack-----	85	Poorly suited Slope	0.50	Poorly suited Slope	0.50

TABLE 8.--Forestland Site Preparation

Map symbol and soil name	Pct. of map unit	Suitability for mechanical site preparation (surface)		Suitability for mechanical site preparation (deep)	
		Rating class and limiting features	Value	Rating class and limiting features	Value
489: Nowack-----	55	Poorly suited Slope	0.50	Poorly suited Slope	0.50
528: Pyropatti-----	45	Poorly suited Slope Rock fragments	0.50 0.50	Poorly suited Slope	0.50
539: Marepas-----	30	Poorly suited Rock fragments Slope	0.50 0.50	Unsuited Restrictive layer Slope	1.00 0.50
540: Marepas-----	15	Unsuited Slope Rock fragments	1.00 0.50	Unsuited Restrictive layer Slope	1.00 1.00
565: Hashwoods-----	15	Well suited		Well suited	
576: Bidrim-----	15	Unsuited Rock fragments Stickiness; high plasticity index	1.00 0.50	Unsuited Restrictive layer Rock fragments	1.00 1.00
577: Bidrim-----	20	Unsuited Rock fragments Stickiness; high plasticity index	1.00 0.50	Unsuited Restrictive layer Rock fragments	1.00 1.00

TABLE 9.--Forestland Planting and Harvesting

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
304: Crocan-----	25	Poorly suited Stickiness; high plasticity index Rock fragments	0.75 0.75	Unsuited Rock fragments	1.00	Poorly suited Rock fragments	1.00
				Stickiness; high plasticity index Slope	0.75 0.50		
323: Hashwoods-----	35	Well suited		Moderately suited Slope	0.50	Well suited	
326: Fiddler-----	20	Poorly suited Rock fragments Stickiness; high plasticity index	0.75 0.50	Unsuited Rock fragments Slope Stickiness; high plasticity index	1.00 1.00 0.50	Moderately suited Rock fragments Slope	0.50 0.50
387: Fiddler-----	25	Poorly suited Rock fragments Stickiness; high plasticity index Slope	0.75 0.50 0.50	Unsuited Slope Rock fragments Stickiness; high plasticity index	1.00 1.00 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
399: Fluvaquents-----	50	Moderately suited Sandiness	0.50	Moderately suited Rock fragments Sandiness Slope	0.50 0.50 0.50	Moderately suited Wetness Sandiness	0.50 0.50
411: Gurlidawg-----	85	Moderately suited Rock fragments Sandiness	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.50 0.50	Moderately suited Rock fragments Sandiness	0.50 0.50
412: Gurlidawg-----	85	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope Rock fragments	1.00 0.50
413: Gurlidawg-----	85	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
414: Gurlidawg-----	85	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Moderately suited Rock fragments	0.50
448: Longval-----	85	Well suited		Moderately suited Slope	0.50	Well suited	

TABLE 9.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
449: Lotawaca-----	85	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75	Rock fragments	0.50
450: Lotawaca-----	85	Moderately suited		Poorly suited		Moderately suited	
		Rock fragments	0.50	Rock fragments	0.75	Rock fragments	0.50
				Slope	0.50		
451: Lyonman-----	85	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75		
452: Lyonman-----	85	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		
453: Lyonman-----	85	Moderately suited		Unsuited		Poorly suited	
		Rock fragments	0.50	Slope	1.00	Slope	1.00
		Slope	0.50	Rock fragments	0.75		
454: Lyonman, cool-----	85	Moderately suited		Poorly suited		Well suited	
		Rock fragments	0.50	Rock fragments	0.75		
				Slope	0.50		
475: Crocac-----	15	Poorly suited		Unsuited		Poorly suited	
		Stickiness; high	0.75	Rock fragments	1.00	Rock fragments	1.00
		plasticity index					
		Rock fragments	0.75	Stickiness; high	0.75		
				plasticity index			
				Slope	0.50		
476: Crocac-----	15	Poorly suited		Unsuited		Poorly suited	
		Stickiness; high	0.75	Rock fragments	1.00	Rock fragments	1.00
		plasticity index					
		Rock fragments	0.75	Stickiness; high	0.75		
				plasticity index			
				Slope	0.50		
477: Crocac-----	15	Poorly suited		Unsuited		Poorly suited	
		Stickiness; high	0.75	Rock fragments	1.00	Rock fragments	1.00
		plasticity index					
		Rock fragments	0.75	Stickiness; high	0.75		
				plasticity index			
				Slope	0.50		
480: Crocac-----	15	Poorly suited		Unsuited		Poorly suited	
		Stickiness; high	0.75	Rock fragments	1.00	Rock fragments	1.00
		plasticity index					
		Rock fragments	0.75	Stickiness; high	0.75		
				plasticity index			
				Slope	0.50		

TABLE 9.--Forestland Planting and Harvesting

Map symbol and soil name	Pct. of map unit	Suitability for hand planting		Suitability for mechanical planting		Suitability for use of harvesting equipment	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
482: Bidrim-----	15	Poorly suited Stickiness; high plasticity index Rock fragments	0.75 0.50	Poorly suited Stickiness; high plasticity index Rock fragments Slope	0.75 0.75 0.50	Well suited	
487: Nowack-----	85	Moderately suited Rock fragments Slope	0.50 0.50	Unsuited Slope Rock fragments	1.00 0.75	Poorly suited Slope	1.00
488: Nowack-----	85	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
489: Nowack-----	55	Moderately suited Rock fragments	0.50	Unsuited Slope Rock fragments	1.00 0.75	Moderately suited Slope	0.50
528: Pyropatti-----	45	Moderately suited Rock fragments	0.50	Poorly suited Rock fragments Slope	0.75 0.50	Well suited	
539: Marepas-----	30	Moderately suited Sandiness Rock fragments	0.50 0.50	Poorly suited Rock fragments Slope Sandiness	0.75 0.75 0.50	Moderately suited Sandiness	0.50
540: Marepas-----	15	Moderately suited Sandiness Rock fragments Slope	0.50 0.50 0.50	Unsuited Slope Rock fragments Sandiness	1.00 0.75 0.50	Poorly suited Slope Sandiness	1.00 0.50
565: Hashwoods-----	15	Well suited		Moderately suited Slope	0.50	Well suited	
576: Bidrim-----	15	Poorly suited Stickiness; high plasticity index Rock fragments	0.75 0.75	Unsuited Rock fragments Stickiness; high plasticity index Slope	1.00 0.75 0.50	Poorly suited Rock fragments	1.00
577: Bidrim-----	20	Poorly suited Stickiness; high plasticity index Rock fragments	0.75 0.75	Unsuited Rock fragments Stickiness; high plasticity index Slope	1.00 0.75 0.50	Poorly suited Rock fragments	1.00

TABLE 10.—Damage by Fire and Seedling Mortality on Forestlands

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
304: Crocan-----	25	Moderate Texture/surface depth/rock fragments	0.50	Low	
323: Hashwoods-----	35	Low Texture/rock fragments	0.10	Low	
326: Fiddler-----	20	Moderate Texture/slope/rock fragments	0.50	Low	
387: Fiddler-----	25	Moderate Texture/slope/rock fragments	0.50	Low	
399: Fluvaquents-----	50	High Texture/rock fragments	1.00	High Wetness	1.00
				Soil reaction	0.50
411: Gurlidawg-----	85	Moderate Texture/rock fragments	0.50	Low	
412: Gurlidawg-----	85	Moderate Texture/slope/rock fragments	0.50	Low	
413: Gurlidawg-----	85	Low		Low	
414: Gurlidawg-----	85	Low		Low	
448: Longval-----	85	Low Texture/rock fragments	0.10	Low	
449: Lotawaca-----	85	Moderate Texture/slope/rock fragments	0.50	Low	
450: Lotawaca-----	85	Low		Low	

TABLE 10.—Damage by Fire and Seedling Mortality on Forestlands

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
451: Lyonman-----	85	Low		Low	
452: Lyonman-----	85	Low Texture/rock fragments	0.10	Low	
453: Lyonman-----	85	Low		Low	
454: Lyonman, cool-----	85	Low Texture/rock fragments	0.10	Low	
475: Crocan-----	15	Moderate Texture/surface depth/rock fragments	0.50	Low	
476: Crocan-----	15	Moderate Texture/surface depth/rock fragments	0.50	Low	
477: Crocan-----	15	Moderate Texture/surface depth/rock fragments	0.50	Low	
480: Crocan-----	15	Moderate Texture/surface depth/rock fragments	0.50	Low	
482: Bidrim-----	15	Low		Low	
487: Nowack-----	85	Low		Low	
488: Nowack-----	85	Low		Low	
489: Nowack-----	55	Low		Low	
528: Pyropatti-----	45	Low Texture/rock fragments	0.10	Low	
539: Marepas-----	30	Low Texture/rock fragments	0.10	Low	
540: Marepas-----	15	Moderate Texture/slope/rock fragments	0.50	Low	

TABLE 10.-Damage by Fire and Seedling Mortality on Forestlands

Map symbol and soil name	Pct. of map unit	Potential for damage to soil by fire		Potential for seedling mortality	
		Rating class and limiting features	Value	Rating class and limiting features	Value
565: Hashwoods-----	15	Low Texture/rock fragments	0.10	Low	
576: Bidrim-----	15	Low		Low	
577: Bidrim-----	20	Low		Low	

TABLE 11.—Haul Roads, Log Landings, and Soil Rutting on Forestlands

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
304: Crocan-----	25	Severe Stoniness Restrictive layer Low strength	1.00 1.00 0.50	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
323: Hashwoods-----	35	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
326: Fiddler-----	20	Severe Slope Stoniness Low strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
387: Fiddler-----	25	Severe Slope Stoniness Low strength	1.00 0.50 0.50	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50	Moderate Low strength	0.50
399: Fluvaquents-----	50	Severe Flooding Wetness Sandiness	1.00 0.50 0.50	Poorly suited Flooding Sandiness	1.00 0.50	Slight Strength	0.10
411: Gurlidawg-----	85	Moderate Slope Sandiness	0.50 0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50	Slight Strength	0.10
412: Gurlidawg-----	85	Severe Slope	1.00	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
413: Gurlidawg-----	85	Moderate Slope	0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
414: Gurlidawg-----	85	Moderate Slope	0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
448: Longval-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50

TABLE 11.—Haul Roads, Log Landings, and Soil Rutting on Forestlands

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
449: Lotawaca-----	85	Severe Slope Stoniness	1.00 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
450: Lotawaca-----	85	Moderate Slope Stoniness	0.50 0.50	Poorly suited Slope Rock fragments	1.00 0.50	Slight Strength	0.10
451: Lyonman-----	85	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
452: Lyonman-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
453: Lyonman-----	85	Severe Slope	1.00	Poorly suited Slope	1.00	Moderate Low strength	0.50
454: Lyonman, cool-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Moderate Low strength	0.50
475: Crocac-----	15	Severe Stoniness Restrictive layer Low strength	1.00 1.00 0.50	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
476: Crocac-----	15	Severe Stoniness Restrictive layer Low strength	1.00 1.00 0.50	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
477: Crocac-----	15	Severe Stoniness Restrictive layer Low strength	1.00 1.00 0.50	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
480: Crocac-----	15	Severe Stoniness Restrictive layer Low strength	1.00 1.00 0.50	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10
482: Bidrim-----	15	Severe Stoniness Restrictive layer	1.00 1.00	Well suited		Slight Strength	0.10
487: Nowack-----	85	Severe Slope	1.00	Poorly suited Slope	1.00	Slight Strength	0.10
488: Nowack-----	85	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
489: Nowack-----	55	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10

TABLE 11.—Haul Roads, Log Landings, and Soil Rutting on Forestlands

Map symbol and soil name	Pct. of map unit	Limitations affecting construction of haul roads and log landings		Suitability for log landings		Soil rutting hazard	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
528: Pyropatti-----	45	Moderate Slope	0.50	Poorly suited Slope	1.00	Slight Strength	0.10
539: Marepas-----	30	Severe Restrictive layer Slope Sandiness	1.00 0.50 0.50	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
540: Marepas-----	15	Severe Slope	1.00	Poorly suited Slope Sandiness	1.00 0.50	Slight Strength	0.10
565: Hashwoods-----	15	Slight		Moderately suited Slope	0.50	Moderate Low strength	0.50
576: Bidrim-----	15	Severe Stoniness Restrictive layer	1.00 1.00	Poorly suited Rock fragments	1.00	Slight Strength	0.10
577: Bidrim-----	20	Severe Stoniness Restrictive layer	1.00 1.00	Poorly suited Rock fragments Slope	1.00 0.50	Slight Strength	0.10

TABLE 12.--Hazard of Erosion and Suitability for Roads on Forestland

(The information in this table indicates the dominant soil condition but does not eliminate the need for onsite investigation. The numbers in the value columns range from 0.01 to 1.00. The larger the value, the greater the limitation. See text for further explanation of ratings in this table.)

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
304: Crocan-----	25	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
323: Hashwoods-----	35	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
326: Fiddler-----	20	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
387: Fiddler-----	25	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments Low strength	1.00 0.50 0.50
399: Fluvaquents-----	50	Slight		Moderate Slope/erodibility	0.50	Poorly suited Flooding Sandiness	1.00 0.50
411: Gurlidawg-----	85	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments Sandiness	1.00 0.50 0.50
412: Gurlidawg-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
413: Gurlidawg-----	85	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
414: Gurlidawg-----	85	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
448: Longval-----	85	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00

TABLE 12.--Hazard of Erosion and Suitability for Roads on Forestland

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
449: Lotawaca-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Rock fragments	1.00 0.50
450: Lotawaca-----	85	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope Rock fragments	1.00 0.50
451: Lyonman-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
452: Lyonman-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
453: Lyonman-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
454: Lyonman, cool-----	85	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
475: Crocan-----	15	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
476: Crocan-----	15	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
477: Crocan-----	15	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
480: Crocan-----	15	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50
482: Bidrim-----	15	Slight		Moderate Slope/erodibility	0.50	Well suited	
487: Nowack-----	85	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
488: Nowack-----	85	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00
489: Nowack-----	55	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope	1.00
528: Pyropatti-----	45	Moderate Slope/erodibility	0.50	Moderate Slope/erodibility	0.50	Poorly suited Slope	1.00

TABLE 12.--Hazard of Erosion and Suitability for Roads on Forestland

Map symbol and soil name	Pct. of map unit	Hazard of off-road or off-trail erosion		Hazard of erosion on roads and trails		Suitability for roads (natural surface)	
		Rating class and limiting features	Value	Rating class and limiting features	Value	Rating class and limiting features	Value
539: Marepas-----	30	Moderate Slope/erodibility	0.50	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
540: Marepas-----	15	Severe Slope/erodibility	0.75	Severe Slope/erodibility	0.95	Poorly suited Slope Sandiness	1.00 0.50
565: Hashwoods-----	15	Slight		Moderate Slope/erodibility	0.50	Moderately suited Slope	0.50
576: Bidrim-----	15	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments	1.00
577: Bidrim-----	20	Slight		Moderate Slope/erodibility	0.50	Poorly suited Rock fragments Slope	1.00 0.50

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
Nutzan-----	In											
	0-10	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	10-17	Gravelly ash sandy loam	GM, SM	A-2	0	0-5	60-85	50-75	30-40	25-35	20-30	NP-5
	17-28	Very gravelly ash sandy loam	GM	A-1	0	0-5	30-55	25-50	20-40	10-25	20-30	NP-5
	28-36	Extremely gravelly ash coarse sandy loam, extremely gravelly ash sandy loam	GP-GM	A-1	0	0-5	15-35	10-25	10-20	5-10	20-30	NP-5
	36-46	Bedrock			---	---	---	---	---	---	---	---
Cavin-----	0-2	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobbly ash very fine sandy loam, extremely gravelly ash very fine sandy loam, extremely cobbly ash sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5
307:												
Ashtre-----	0-2	Very gravelly ash loam	GM	A-2	0	0-5	40-50	35-50	30-45	20-35	25-30	NP-5
	2-11	Ashy loam	ML	A-4	0	0-1	85-95	75-95	60-80	50-70	30-40	5-10
	11-26	Ashy clay loam	CL, ML	A-7	0	0-5	85-95	70-95	55-75	50-70	40-50	15-20
	26-60	Bedrock			---	---	---	---	---	---	---	---
Tusune-----	0-2	Gravelly ash loam	GM, SM	A-1, A-2, A-4	1-5	1-5	55-85	45-70	35-50	20-45	---	NP
	2-10	Gravelly ash loam	GM, SM	A-2, A-4	0	0-5	60-85	50-75	35-50	30-45	25-30	NP-5
	10-38	Very gravelly ash clay loam, very gravelly ash loam	GC, GM	A-2	0	0-5	40-55	35-50	25-40	20-35	35-40	10-15
	38-48	Bedrock			---	---	---	---	---	---	---	---
Brownsbowl-----	0-10	Gravelly ash sandy loam	SM	A-2, A-4	0	0	80-90	70-85	55-70	30-45	15-25	NP
	10-28	Gravelly ash sandy loam	SM	A-4, A-2	0	2-10	85-90	80-85	60-70	30-40	15-25	NP
	28-34	Cobbly ash sandy loam	SM	A-2	0-1	15-25	75-85	70-80	55-65	25-40	10-20	NP
	34-41	Very cobbly ash sandy loam	SM	A-1, A-2	0-2	25-35	60-70	50-60	35-50	20-30	10-20	NP
	41-61	Extremely cobbly ash fine sandy loam	GM	A-1	0-5	40-50	40-55	35-50	25-45	15-25	10-15	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Cavin-----	0-2	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobbly ashy very fine sandy loam, extremely gravelly ashy very fine sandy loam, extremely cobbly ashy sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5
	Brownsbowl-----	0-10	Gravelly ashy sandy loam	SM	A-2, A-4	0	0	80-90	70-85	55-70	30-45	15-25
10-28		Gravelly ashy sandy loam	SM	A-4, A-2	0	2-10	85-90	80-85	60-70	30-40	15-25	NP
28-34		Cobbly ashy sandy loam	SM	A-2	0-1	15-25	75-85	70-80	55-65	25-40	10-20	NP
34-41		Very cobbly ashy sandy loam	SM	A-1, A-2	0-2	25-35	60-70	50-60	35-50	20-30	10-20	NP
41-61		Extremely cobbly ashy fine sandy loam	GM	A-1	0-5	40-50	40-55	35-50	25-45	15-25	10-15	NP
322: Brownsbowl-----		0-10	Gravelly ashy sandy loam	SM	A-2, A-4	0	0	80-90	70-85	55-70	30-45	15-25
	10-28	Gravelly ashy sandy loam	SM	A-4, A-2	0	2-10	85-90	80-85	60-70	30-40	15-25	NP
	28-34	Cobbly ashy sandy loam	SM	A-2	0-1	15-25	75-85	70-80	55-65	25-40	10-20	NP
	34-41	Very cobbly ashy sandy loam	SM	A-1, A-2	0-2	25-35	60-70	50-60	35-50	20-30	10-20	NP
	41-61	Extremely cobbly ashy fine sandy loam	GM	A-1	0-5	40-50	40-55	35-50	25-45	15-25	10-15	NP
Cowbell-----	0-3	Extremely cobbly ashy mucky sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5
	3-9	Extremely cobbly ashy loam	GM	A-2, A-4	5-15	50-70	40-55	30-50	25-45	20-40	30-35	5-10
	9-40	Very cobbly ashy sandy loam, very cobbly ashy sandy clay loam, extremely cobbly ashy loam	GC	A-2	0-25	30-45	55-65	55-60	35-45	20-30	30-40	10-15
	40-60	Very gravelly ashy sandy clay loam	GC, GM	A-2	0	0-5	40-55	35-50	25-40	20-35	35-40	10-15

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
329: Bucklake-----	0-8	Very cobbly loam	CL, CL-ML, SC, SC-SM	A-4	5-25	10-60	70-85	65-80	55-70	40-55	25-35	5-15
	8-12	Gravelly clay loam	CL, GC	A-6	0	0-10	55-75	50-70	45-65	40-55	30-40	10-20
	12-24	Gravelly clay, gravelly clay loam	CH, CL, GC	A-7	0	0-10	55-75	50-70	45-65	40-60	40-60	20-35
	24-34	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Corral-----	0-7	Stony loam	CL, ML	A-4	10-20	15-20	80-90	75-85	60-80	50-65	25-35	5-10
	7-16	Clay loam, loam, sandy clay loam	CL	A-6	0	0-5	80-100	75-95	65-90	50-75	30-40	10-20
	16-26	Bedrock			---	---	---	---	---	---	---	---
330: Bucklake-----	0-8	Very cobbly loam	CL, CL-ML, SC, SC-SM	A-4	5-25	10-60	70-85	65-80	55-70	40-55	25-35	5-15
	8-12	Gravelly clay loam	CL, GC	A-6	0	0-10	55-75	50-70	45-65	40-55	30-40	10-20
	12-24	Gravelly clay, gravelly clay loam	CH, CL, GC	A-7	0	0-10	55-75	50-70	45-65	40-60	40-60	20-35
	24-34	Bedrock			---	---	---	---	---	---	---	---
Softscrabble----	0-20	Very cobbly loam	GC	A-2, A-4	10-15	20-35	40-60	35-55	25-50	20-40	20-30	5-10
	20-32	Very cobbly clay loam, extremely cobbly clay loam	CL, GC	A-2, A-6	0-5	25-70	50-80	40-70	35-60	30-55	35-40	15-20
	32-61	Clay loam, gravelly clay loam, loam	CL	A-7	0-5	0-10	75-100	60-90	60-80	50-70	40-50	15-25
	61-71	Bedrock			---	---	---	---	---	---	---	---
Devada-----	0-4	Cobbly loam	CL, CL-ML, SC, SC-SM	A-4	5-25	10-45	75-100	70-100	50-75	40-60	25-35	5-15
	4-13	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	13-27	Bedrock			---	---	---	---	---	---	---	---
331: Buffaran-----	0-2	Very cobbly loam	GC-GM, GM	A-2	0-5	25-50	60-70	55-65	45-55	30-40	15-25	NP-10
	2-16	Gravelly clay loam, gravelly clay, clay	CH, CL	A-7	0	0-5	75-90	70-85	65-80	50-65	40-55	20-30
	16-27	Cemented material			---	---	---	---	---	---	---	---
	27-60	Cemented material			---	---	---	---	---	---	---	---
Fulstone-----	0-4	Very cobbly loam	GC-GM, GM	A-2	0-5	25-50	60-70	55-65	45-55	30-40	15-25	NP-10
	4-16	Clay, gravelly clay	CH, MH	A-7	0	0-5	70-100	65-100	60-100	50-85	50-65	20-35
	16-26	Cemented material			---	---	---	---	---	---	---	---
	26-60	Very cobbly sandy loam, extremely cobbly sandy loam, extremely gravelly sand	GM, GP, GP-GM	A-1	0	30-45	25-55	20-50	10-35	0-20	15-25	NP-5

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Hutchley-----	0-6	Very cobbly sandy loam	SM	A-1, A-2	0	30-40	60-70	50-70	35-60	20-35	15-25	NP-5
	6-14	Very gravelly clay loam, extremely gravelly loam, very cobbly clay loam	GC, SC	A-2, A-6	0-5	10-40	45-70	35-55	15-55	10-40	30-40	10-15
	14-24	Bedrock			---	---	---	---	---	---	---	---
336: Cavin-----	0-2	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobbly ashy very fine sandy loam, extremely gravelly ashy very fine sandy loam, extremely cobbly ashy sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5
Cowbell-----	0-3	Extremely cobbly ashy mucky sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5
	3-9	Extremely cobbly ashy loam	GM	A-2, A-4	5-15	50-70	40-55	30-50	25-45	20-40	30-35	5-10
	9-40	Very cobbly ashy sandy loam, very cobbly ashy sandy clay loam, extremely cobbly ashy loam	GC	A-2	0-25	30-45	55-65	55-60	35-45	20-30	30-40	10-15
	40-60	Very gravelly ashy sandy clay loam	GC, GM	A-2	0	0-5	40-55	35-50	25-40	20-35	35-40	10-15
Rubble land-----	0-60	Fragmental material	GW, GP	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
337: Cavin-----	0-2	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobble ash very fine sandy loam, extremely gravelly ash very fine sandy loam, extremely cobble ash sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5
Hutchley-----	0-6	Very cobble sandy loam	SM	A-1, A-2	0	30-40	60-70	50-70	35-60	20-35	15-25	NP-5
	6-14	Very gravelly clay loam, extremely gravelly loam, very cobble clay loam	GC, SC	A-2, A-6	0-5	10-40	45-70	35-55	15-55	10-40	30-40	10-15
	14-24	Bedrock			---	---	---	---	---	---	---	---
338: Cavin-----	0-2	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobble ash very fine sandy loam, extremely gravelly ash very fine sandy loam, extremely cobble ash sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Nutzan-----	0-10	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	10-17	Gravelly ash sandy loam	GM, SM	A-2	0	0-5	60-85	50-75	30-40	25-35	20-30	NP-5
	17-28	Very gravelly ash sandy loam	GM	A-1	0	0-5	30-55	25-50	20-40	10-25	20-30	NP-5
	28-36	Extremely gravelly ash coarse sandy loam, extremely gravelly ash sandy loam	GP-GM	A-1	0	0-5	15-35	10-25	10-20	5-10	20-30	NP-5
	36-46	Bedrock			---	---	---	---	---	---	---	---
Snag-----	0-4	Very stony ash sandy loam	SM	A-1	25-40	15-30	60-70	50-70	20-30	15-20	20-30	NP-5
	4-30	Extremely stony ash sandy loam	SM	A-1	50-60	10-30	65-85	60-80	25-45	10-20	20-30	NP-5
	30-62	Very cobbly ash sandy loam, very cobbly ash sandy clay loam, extremely cobbly ash sandy clay loam	GM	A-2	0-25	30-45	55-65	55-60	35-45	20-30	30-40	5-10
339: Cavin-----	0-2	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ash sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobbly ash very fine sandy loam, extremely gravelly ash very fine sandy loam, extremely cobbly ash sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
345: Cormol-----	0-3	Very cobbly ashy loam	GM, ML	A-4, A-2	15-30	25-30	55-80	50-75	45-70	30-55	30-35	NP-5
	3-7	Ashy loam	ML	A-4	0-1	1-3	80-95	75-90	65-85	50-70	30-35	NP-5
	7-11	Ashy sandy clay loam, ashy loam, ashy clay loam	SM	A-4, A-7	0-1	1-2	85-100	80-95	70-90	40-50	35-45	5-15
	11-18	Very paragravelly ashy sandy clay loam, very paragravelly ashy clay loam, paragravelly ashy loam	SM	A-4, A-7	0-1	0-1	95-100	85-95	70-90	40-50	35-45	5-15
	18-34	Bedrock			---	---	---	---	---	---	---	---
Bucklake-----	0-8	Very cobbly loam	CL, CL-ML, SC, SC-SM	A-4	5-25	10-60	70-85	65-80	55-70	40-55	25-35	5-15
	8-12	Gravelly clay loam	CL, GC	A-6	0	0-10	55-75	50-70	45-65	40-55	30-40	10-20
	12-24	Gravelly clay, gravelly clay loam	CH, CL, GC	A-7	0	0-10	55-75	50-70	45-65	40-60	40-60	20-35
	24-34	Bedrock			---	---	---	---	---	---	---	---
Devada-----	0-6	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-4	0-5	30-65	55-75	50-70	40-50	30-45	25-35	5-15
	6-17	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	17-27	Bedrock			---	---	---	---	---	---	---	---
346: Couch-----	0-1	Ashy fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	25-30	5-10
	1-6	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	6-13	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	13-22	Clay loam	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	22-60	Stratified ashy sandy loam to ashy silt loam	CL, ML, SC- SM, SM	A-4	0	0	80-100	75-100	60-95	40-65	25-35	5-10
347: Couch-----	0-1	Ashy fine sandy loam	CL	A-6	0	0	100	100	85-95	50-75	30-40	15-20
	1-22	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	22-60	Stratified ashy sandy loam to ashy silt loam	CL, ML, SC- SM, SM	A-4	0	0	80-100	75-100	60-95	40-65	25-35	5-10
348: Couch-----	0-1	Ashy loam	CL	A-6	0	0	100	100	85-95	50-75	30-40	15-20
	1-22	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	22-40	Stratified ashy sandy loam to ashy silt loam	CL, ML, SC- SM, SM	A-4	0	0	80-100	75-100	60-95	40-65	25-35	5-10
	40-60	Clay	CH	A-7	0	0	100	100	90-100	85-95	50-60	25-35
349: Couch-----	0-1	Ashy silt loam	ML	A-4	0	0	100	100	90-100	65-80	25-35	NP-10
	1-6	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	6-13	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	13-22	Clay loam	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	22-60	Stratified ashy sandy loam to ashy silt loam	CL, ML, SC- SM, SM	A-4	0	0	80-100	75-100	60-95	40-65	25-35	5-10

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
Jesayno-----	0-12	Ashy silt loam	ML	A-4	0	0	100	100	90-100	65-80	25-35	NP-10
	12-24	Ashy silt loam, ash very fine sandy loam	ML	A-4	0	0	100	100	95-100	70-85	25-35	NP-10
	24-41	Ashy silt loam	ML	A-4	0	0	100	100	95-100	75-85	35-45	5-10
	41-60	Ashy silt loam	ML	A-4	0	0	100	100	95-100	75-85	35-45	5-10
350: Couch-----	0-1	Ashy fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	25-30	5-10
	1-6	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	6-13	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	13-22	Clay loam	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	22-60	Stratified ash sandy loam to ash silt loam	CL, ML, SC-SM, SM	A-4	0	0	80-100	75-100	60-95	40-65	25-35	5-10
Nevadash-----	0-2	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	2-5	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	5-17	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	17-28	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	28-44	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	44-68	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-80	50-70	40-65	20-50	20-30	NP-5
351: Cowbell-----	0-3	Extremely cobbly ash mucky sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5
	3-9	Extremely cobbly ash loam	GM	A-2, A-4	5-15	50-70	40-55	30-50	25-45	20-40	30-35	5-10
	9-40	Very cobbly ash sandy loam, very cobbly ash sandy clay loam, extremely cobbly ash loam	GC	A-2	0-25	30-45	55-65	55-60	35-45	20-30	30-40	10-15
	40-60	Very gravelly ash sandy clay loam	GC, GM	A-2	0	0-5	40-55	35-50	25-40	20-35	35-40	10-15
Brownsbowl-----	0-10	Gravelly ash sandy loam	SM	A-2, A-4	0	0	80-90	70-85	55-70	30-45	15-25	NP
	10-28	Gravelly ash sandy loam	SM	A-4, A-2	0	2-10	85-90	80-85	60-70	30-40	15-25	NP
	28-34	Cobbly ash sandy loam	SM	A-2	0-1	15-25	75-85	70-80	55-65	25-40	10-20	NP
	34-41	Very cobbly ash sandy loam	SM	A-1, A-2	0-2	25-35	60-70	50-60	35-50	20-30	10-20	NP
	41-61	Extremely cobbly ash fine sandy loam	GM	A-1	0-5	40-50	40-55	35-50	25-45	15-25	10-15	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
354:												
Crutcher-----	0-5	Ashy very fine sandy loam	ML	A-4	0	0	95-100	90-100	80-90	50-60	25-35	NP-5
	5-15	Ashy silt loam, ash loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	30-35	NP-5
	15-22	Ashy silt loam	ML	A-4	0	0	95-100	90-100	90-95	90-95	35-40	5-10
	22-43	Stratified ash sandy loam to ash silty clay loam	ML	A-4	0	0	95-100	90-100	85-95	80-85	35-40	5-10
	43-74	Paragravelly ash silty clay loam, paragravelly ash silt loam	ML	A-7	0	0	95-100	90-100	80-90	80-85	40-50	10-15
355:												
Crutcher-----	0-5	Ashy very fine sandy loam	ML	A-4	0	0	95-100	90-100	80-90	50-60	25-35	NP-5
	5-15	Ashy silt loam, ash loam	ML	A-4	0	0	95-100	90-100	85-95	70-80	30-35	NP-5
	15-22	Ashy silt loam	ML	A-4	0	0	95-100	90-100	90-95	90-95	35-40	5-10
	22-43	Stratified ash sandy loam to ash silty clay loam	ML	A-4	0	0	95-100	90-100	85-95	80-85	35-40	5-10
	43-74	Paragravelly ash silty clay loam, paragravelly ash silt loam	ML	A-7	0	0	95-100	90-100	85-95	80-90	40-50	10-15
Isolde-----	0-7	Fine sand	SP-SM, SP	A-3	0	0	100	100	75-90	0-10	---	NP
	7-60	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	50-80	0-10	---	NP
356:												
Cuminvar-----	0-8	Muck	PT	A-1	0	0	---	---	---	---	---	---
	8-15	Ashy silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-35	NP-10
	15-72	Clay, silty clay	CH	A-7	0	0	100	100	90-100	75-95	50-60	25-35
357:												
Cuminvar-----	0-8	Muck	PT	A-1	0	0	---	---	---	---	---	---
	8-15	Ashy silt loam	ML	A-4	0	0	100	100	90-100	70-90	25-35	NP-10
	15-72	Clay, silty clay	CH	A-7	0	0	100	100	90-100	75-95	50-60	25-35
358:												
Cummings-----	0-6	Ashy silty clay loam	CL, ML	A-6	0	0	95-100	95-100	85-95	70-80	30-50	10-20
	6-28	Ashy silty clay loam	CL, MH, ML	A-7	0	0	100	100	90-95	85-95	30-60	10-25
	28-34	Ashy silty clay loam	CL, MH, ML	A-7	0	0	100	100	90-95	85-95	30-60	10-25
	34-44	Ashy silty clay loam	CL, MH, ML	A-7	0	0	100	100	90-95	85-95	30-60	10-25
	44-63	Ashy silty clay loam	CL, MH, ML	A-7	0	0	100	100	90-95	85-95	30-60	10-25
359:												
Cummings-----	0-6	Mucky ash silty clay loam	ML, CL	A-6	0	0	100	100	90-95	85-95	30-50	10-20
	6-28	Ashy silty clay loam	CL, MH, ML	A-7	0	0	100	100	90-95	85-95	30-60	10-25
	28-34	Ashy silty clay loam	CL, MH, ML	A-7	0	0	100	100	90-95	85-95	30-60	10-25
	34-44	Ashy silty clay loam	CL, MH, ML	A-7	0	0	100	100	90-95	85-95	30-60	10-25
	44-63	Ashy silty clay loam	CL, MH, ML	A-7	0	0	100	100	90-95	85-95	30-60	10-25

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
360: Dangvar-----	0-4	Ashy loam	CL, CL-ML	A-4	0	0	100	100	85-95	60-80	25-35	5-15
	4-17	Clay, silty clay	CH	A-7	0	0	100	100	95-100	75-95	50-60	25-35
	17-20	Cemented			---	---	---	---	---	---	---	---
	20-35	Loam	CL, CL-ML	A-4	0	0	100	100	75-85	50-75	25-35	5-15
	35-54	Silty clay loam	CL	A-6	0	0	100	100	95-100	80-95	30-40	10-20
361: Dangvar-----	0-4	Ashy loam	CL, CL-ML	A-4	0	0	100	100	85-95	60-80	25-35	5-15
	4-17	Clay, silty clay	CH	A-7	0	0	100	100	95-100	75-95	50-60	25-35
	17-20	Cemented			---	---	---	---	---	---	---	---
	20-35	Silty clay loam, loam	CL, CL-ML	A-4	0	0	100	100	75-85	50-75	25-35	5-15
	35-60	Silty clay loam	CL	A-6	0	0	100	100	95-100	80-95	30-40	10-20
362: Davey-----	0-5	Sandy loam	SM	A-2	0	0	100	100	70-90	20-35	---	NP
	5-14	Fine sandy loam, sandy loam	SM	A-2	0	0	100	100	80-90	30-40	20-25	NP-5
	14-67	Fine sand, loamy fine sand	SM	A-2	0	0	85-100	85-100	70-80	10-20	---	NP
363: Dawgbuffer-----	0-4	Very gravelly ashy sandy loam	GM, SM	A-1	0-10	0-10	55-70	35-50	25-40	20-30	20-30	NP-5
	4-13	Extremely gravelly ashy loam, extremely gravelly ashy sandy clay loam, extremely gravelly ashy sandy loam	GP-GC	A-2	0-10	0-10	25-45	10-30	5-20	0-15	30-35	10-15
	13-23	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
364: Devada-----	0-6	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-4	0-5	30-65	55-75	50-70	40-50	30-45	25-35	5-15
	6-17	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	17-27	Bedrock			---	---	---	---	---	---	---	---
Bieber-----	0-6	Very gravelly loam	GC-GM, GM	A-1, A-2	0	0-5	45-60	35-50	25-30	20-25	20-30	NP-10
	6-10	Clay loam, gravelly clay loam, gravelly clay	CL, GC	A-6, A-7	0	0-5	55-90	50-85	45-70	40-60	35-45	15-20
	10-16	Clay, clay loam, gravelly clay	CH, CL	A-7	0	0	65-95	60-90	55-85	50-80	45-60	20-35
	16-31	Cemented material			---	---	---	---	---	---	---	---
	31-60	Stratified cobbly sandy loam to very gravelly sandy loam	GM	A-1	0	15-25	35-55	35-50	20-35	15-25	15-25	NP-5

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
Reywat-----	0-6	Very stony loam	GC-GM, GM, GC	A-4	30-55	15-45	55-75	50-70	40-65	35-50	25-35	5-10
	6-18	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2	0-5	5-20	40-60	35-55	30-45	25-40	35-50	15-25
	18-28	Bedrock			---	---	---	---	---	---	---	---
372: Devada-----	0-4	Cobbly loam	CL, CL-ML, SC, SC-SM	A-4	5-25	10-45	75-100	70-100	50-75	40-60	25-35	5-15
	4-13	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	13-27	Bedrock			---	---	---	---	---	---	---	---
Reywat-----	0-6	Very stony loam	GC-GM, GM, GC	A-4	30-55	15-45	55-75	50-70	40-65	35-50	25-35	5-10
	6-18	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2	0-5	5-20	40-60	35-55	30-45	25-40	35-50	15-25
	18-28	Bedrock			---	---	---	---	---	---	---	---
Bitner-----	0-7	Very gravelly ashy sandy loam	GM	A-1	0	0-2	40-60	35-50	25-40	15-30	15-20	NP
	7-13	Gravelly ashy sandy loam	SM	A-2	0	0	65-80	60-75	50-65	20-35	30-35	NP-5
	13-27	Gravelly ashy sandy loam	SM	A-2	0	0	65-80	60-75	50-65	20-35	30-35	NP-5
	27-37	Bedrock			---	---	---	---	---	---	---	---
373: Devada-----	0-4	Cobbly loam	CL, CL-ML, SC, SC-SM	A-4	5-25	10-45	75-100	70-100	50-75	40-60	25-35	5-15
	4-13	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	13-27	Bedrock			---	---	---	---	---	---	---	---
Reywat-----	0-6	Very stony loam	GC-GM, GM, GC	A-4	30-55	15-45	55-75	50-70	40-65	35-50	25-35	5-10
	6-18	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2	0-5	5-20	40-60	35-55	30-45	25-40	35-50	15-25
	18-28	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
374: Devada-----	0-4	Cobbly loam	CL, CL-ML, SC, SC-SM	A-4	5-25	10-45	75-100	70-100	50-75	40-60	25-35	5-15
	4-13	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	13-27	Bedrock			---	---	---	---	---	---	---	---
Reywat-----	0-6	Very stony loam	GC-GM, GM, GC	A-4	30-55	15-45	55-75	50-70	40-65	35-50	25-35	5-10
	6-18	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2	0-5	5-20	40-60	35-55	30-45	25-40	35-50	15-25
	18-28	Bedrock			---	---	---	---	---	---	---	---
Rubble land-----	0-60	Fragmental material	GW, GP	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
379: Dismalswamp-----	0-22	Ashy loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	22-31	Gravelly ashy loam	CL, CL-ML, GC, GC-GM	A-4	0	0-5	55-80	50-75	45-65	35-55	25-30	5-10
	31-60	Very gravelly ashy sandy loam, very gravelly ashy loam	GM	A-4, A-2	0-8	0-10	35-55	30-50	25-45	20-40	30-40	5-10
Dismalswamp, wet	0-22	Ashy loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	22-31	Gravelly ashy loam	CL, CL-ML, GC, GC-GM	A-4	0	0-5	55-80	50-75	45-65	35-55	25-30	5-10
	31-60	Very gravelly ashy sandy loam, very gravelly ashy loam	GM	A-4, A-2	0-8	0-10	35-55	30-50	25-45	20-40	30-40	5-10
380: Donica-----	0-13	Gravelly ashy sandy loam	GM, SM	A-2	0	5-10	55-80	50-75	30-50	20-35	---	NP
	13-29	Very gravelly ashy coarse sandy loam, very gravelly ashy sandy loam, extremely gravelly ashy coarse sandy loam	GM, GW-GM	A-1	0	5-10	20-35	15-30	10-20	5-15	---	NP
	29-60	Extremely gravelly ashy coarse sand, very gravelly ashy coarse sand	GP, SP	A-1	3-25	5-35	20-65	15-60	10-40	0-5	---	NP
381: Donica-----	0-13	Gravelly ashy sandy loam	GM, SM	A-2	0	5-10	55-80	50-75	30-50	20-35	---	NP
	13-29	Very gravelly coarse sandy loam, very gravelly sandy loam, extremely gravelly ashy coarse sandy loam	GM, GW-GM	A-1	0	5-10	20-35	15-30	10-20	5-15	---	NP
	29-60	Extremely gravelly ashy coarse sand, very gravelly ashy coarse sand	GP, SP	A-1	3-25	5-35	20-65	15-60	10-40	0-5	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
382: Donica-----	0-13	Gravelly ash sandy loam	GM, SM	A-2	0	5-10	55-80	50-75	30-50	20-35	---	NP
	13-29	Very gravelly ashy coarse sandy loam, very gravelly ashy sandy loam, extremely gravelly ash coarse sandy loam	GM, GW-GM	A-1	0	5-10	20-35	15-30	10-20	5-15	---	NP
	29-60	Extremely gravelly ash coarse sand, very gravelly ashy coarse sand	GP, SP	A-1	3-25	5-35	20-65	15-60	10-40	0-5	---	NP
383: Donica-----	0-13	Very gravelly ashy sandy loam	GM, GP-GM	A-1	0	10-15	30-60	25-55	15-30	5-20	---	NP
	13-29	Very gravelly ashy coarse sandy loam, very gravelly ashy sandy loam, extremely gravelly ash coarse sandy loam	GM, GW-GM	A-1	0	5-10	20-35	15-30	10-20	5-15	---	NP
	29-60	Extremely gravelly ash coarse sand, very gravelly ashy coarse sand	GP, SP	A-1	3-25	5-35	20-65	15-60	10-40	0-5	---	NP
384: Donica-----	0-13	Very stony ash sandy loam	GM, GP-GM	A-1	0	15-25	30-60	25-55	15-30	5-20	---	NP
	13-29	Very gravelly ashy coarse sandy loam, very gravelly ashy sandy loam, extremely gravelly ash coarse sandy loam	GM, GW-GM	A-1	0	5-10	20-35	15-30	10-20	5-15	---	NP
	29-60	Extremely gravelly ash coarse sand, very gravelly ashy coarse sand	GP, SP	A-1	3-25	5-35	20-65	15-60	10-40	0-5	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Fiddler-----	0-7	Very cobbly loam	CL, CL-ML, ML	A-4	15-25	25-55	95-100	90-100	80-90	55-75	25-35	5-10
	7-28	Very stony clay loam, very cobbly clay loam	CH, CL	A-7	25-55	40-50	75-90	70-85	65-75	50-65	40-60	20-35
	28-38	Bedrock			---	---	---	---	---	---	---	---
Rubble land-----	0-60	Fragmental material	GW, GP	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP
388: Dosie-----	0-5	Very gravelly loam	GC	A-2	5-10	5-10	55-65	40-55	35-45	25-35	20-30	5-10
	5-41	Very gravelly clay loam, very gravelly clay	GC, GM	A-2	0-1	15-30	45-65	35-60	30-40	20-30	40-55	20-25
	41-51	Bedrock			---	---	---	---	---	---	---	---
Rubble land-----	0-60	Fragmental material	GW	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP
389: Dosie-----	0-5	Very gravelly loam	GC	A-2	5-10	5-10	55-65	40-55	35-45	25-35	20-30	5-10
	5-41	Very gravelly clay loam, very gravelly clay	GC, GM	A-2	0-1	15-30	45-65	35-60	30-40	20-30	40-55	20-25
	41-51	Bedrock			---	---	---	---	---	---	---	---
Softscrabble----	0-20	Very cobbly loam	GC	A-2, A-4	10-15	20-35	40-60	35-55	25-50	20-40	20-30	5-10
	20-32	Very cobbly clay loam, extremely cobbly clay loam	CL, GC	A-2, A-6	0-5	25-70	50-80	40-70	35-60	30-55	35-40	15-20
	32-61	Clay loam, gravelly clay loam, loam	CL	A-7	0-5	0-10	75-100	60-90	60-80	50-70	40-50	15-25
	61-71	Bedrock			---	---	---	---	---	---	---	---
390: Emagert-----	0-14	Ashy loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	14-38	Stratified sandy loam to silty clay loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	38-60	Stratified gravelly loamy sand to silty clay loam	ML	A-4	0	0	95-100	85-100	75-85	50-60	30-40	5-10
391: Emagert-----	0-14	Ashy loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	14-38	Stratified sandy loam to silty clay loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	38-60	Stratified gravelly loamy sand to silty clay loam	ML	A-4	0	0	95-100	85-100	75-85	50-60	30-40	5-10

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Powlow-----	0-6	Very gravelly loam	GM	A-1	0	0-5	40-60	30-50	25-45	20-30	25-35	NP-10
	6-15	Gravelly clay, clay, gravelly clay loam	CH, CL	A-7	0	0-5	80-100	70-100	60-70	50-65	40-55	20-30
	15-60	Cemented material			---	---	---	---	---	---	---	---
396:												
Ferver-----	0-2	Very cobbly sandy loam	SM	A-1, A-2	0	30-40	60-70	50-70	35-60	20-35	15-25	NP-5
	2-5	Silt loam	ML	A-4	0	0	95-100	85-100	80-95	70-85	30-40	NP-10
	5-28	Clay	CH	A-7	0	0-5	85-100	75-100	70-95	65-85	60-75	40-55
	28-35	Clay loam	CL	A-7	0	0-5	85-100	75-100	70-90	50-70	40-45	15-20
	35-46	Cemented material			---	---	---	---	---	---	---	---
	46-56	Bedrock			---	---	---	---	---	---	---	---
397:												
Ferver-----	0-2	Very cobbly silt loam	GM, ML, SM	A-4	0-5	40-55	60-80	50-70	45-65	40-60	30-40	NP-10
	2-5	Silt loam	ML	A-4	0	0	95-100	85-100	80-95	70-85	30-40	NP-10
	5-28	Clay	CH	A-7	0	0-5	85-100	75-100	70-95	65-85	60-75	40-55
	28-35	Clay loam	CL	A-7	0	0-5	85-100	75-100	70-90	50-70	40-45	15-20
	35-46	Cemented material			---	---	---	---	---	---	---	---
	46-56	Bedrock			---	---	---	---	---	---	---	---
Tunnison-----	0-2	Cobbly clay	CH	A-7	0	15-40	85-95	80-90	75-90	65-90	60-70	35-45
	2-27	Clay	CH	A-7	0	0	100	100	95-100	90-95	60-75	40-50
	27-30	Bedrock			---	---	---	---	---	---	---	---
	30-40	Bedrock			---	---	---	---	---	---	---	---
398:												
Fitzwater-----	0-10	Extremely stony loam	GC, GC-GM, SC, SC-SM	A-2, A-4	25-55	25-45	50-90	40-80	35-70	25-50	25-30	5-10
	10-19	Extremely cobbly clay loam, extremely cobbly loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	5-15	45-65	50-70	40-60	35-60	25-50	25-35	5-15
	19-60	Extremely cobbly loam, extremely stony loam	GC, GC-GM, SC, SC-SM	A-1, A-2	15-55	45-65	35-65	25-50	20-45	15-35	25-30	5-10
Westbutte-----	0-7	Extremely stony loam	GC-GM, GM, GC	A-2, A-4	30-50	15-45	45-55	40-50	35-45	25-40	25-35	5-10
	7-33	Very cobbly clay loam, very cobbly loam, very stony loam	GC-GM, GM, SC-SM, SM, GC	A-2, A-4	15-45	15-45	50-75	45-70	40-60	30-50	25-35	5-10
	33-43	Bedrock			---	---	---	---	---	---	---	---
399:												
Fluvaquents-----	0-6	Very gravelly coarse sand	GP-GM, GW-GM, SM, SW, SW-SM	A-1	0	0-10	45-60	35-50	15-25	0-15	---	NP
	6-60	Stratified very gravelly coarse sand to clay loam	SP-SM, GP-GC, GM, SC-SM, SM	A-1, A-2	0	0-30	20-70	10-60	5-30	5-15	15-30	NP-10
Riverwash-----	0-6	Gravelly coarse sand	GP, GP-GM, GW, SW-SM	A-1	0	0-5	50-80	50-75	15-45	0-10	---	NP
	6-60	Stratified gravelly sand to extremely gravelly coarse sand	GP, GW, SP, SW	A-1	0	0-25	25-55	25-50	10-30	0-5	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
Buffaran-----	In											
	0-2	Gravelly loam	CL, SC	A-6	0-1	5-15	75-90	70-80	50-75	40-60	25-35	10-15
	2-16	Gravelly clay loam, gravelly clay, clay	CH, CL	A-7	0	0-5	75-90	70-85	65-80	50-65	40-55	20-30
	16-27	Cemented material			---	---	---	---	---	---	---	---
	27-60	Cemented material			---	---	---	---	---	---	---	---
406:												
Fulstone-----	0-4	Very gravelly sandy loam	GM	A-1	0	0-5	40-60	35-50	25-40	15-30	15-20	NP-5
	4-16	Clay, gravelly clay	CH, MH	A-7	0	0-5	70-100	65-100	60-100	50-85	50-65	20-35
	16-26	Cemented material			---	---	---	---	---	---	---	---
	26-60	Very cobbly sandy loam, extremely cobbly sandy loam, extremely gravelly sand	GM, GP, GP-GM	A-1	0	30-45	25-55	20-50	10-35	0-20	15-25	NP-5
Saraph-----	0-4	Very gravelly ashy sandy loam	GM	A-1, A-2	0	0-2	40-60	35-50	25-40	15-30	15-20	NP
	4-9	Ashy sandy loam, ashy sandy clay loam	ML, SM	A-4	0	0	95-100	75-100	55-70	35-60	30-45	NP-5
	9-16	Ashy sandy clay loam, ashy clay loam	ML, SM	A-5	0	0	95-100	75-100	60-75	45-70	35-50	5-10
	16-30	Bedrock			---	---	---	---	---	---	---	---
Tuffo-----	0-1	Very gravelly ashy sandy loam	GM	A-1, A-2	0	0	40-60	35-50	25-40	15-30	15-20	NP-5
	1-8	Ashy very fine sandy loam, gravelly ashy sandy loam, ashy fine sandy loam	SM	A-2, A-4	0	0	65-95	60-90	55-80	30-50	15-20	NP-5
	8-30	Bedrock			---	---	---	---	---	---	---	---
407:												
Gorzell-----	0-8	Very gravelly sandy loam	GM	A-1, A-2	0	0-5	30-55	25-50	20-40	15-25	25-35	NP-10
	8-12	Gravelly clay loam, gravelly sandy clay loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-20
	12-30	Gravelly clay loam, gravelly sandy clay loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-20
	30-60	Stratified extremely gravelly coarse sand to very gravelly sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
415:												
Halvert-----	0-2	Gravelly loam	GC, SC	A-6	0-1	5-10	60-80	55-75	35-55	30-50	30-35	10-15
	2-5	Gravelly clay loam	CL, GC	A-6	0-1	5-10	60-80	55-75	50-70	40-60	35-40	15-20
	5-27	Clay, gravelly clay	CH, GC	A-7	0	5-10	60-95	55-85	50-80	40-75	60-75	40-50
	27-32	Cemented material			---	---	---	---	---	---	---	---
	32-42	Bedrock			---	---	---	---	---	---	---	---
Jaybee-----	0-4	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-4, A-6	0-2	45-60	65-75	55-65	45-55	35-45	25-35	5-15
	4-14	Gravelly clay, gravelly clay loam	CL, SC	A-7	0	0-10	75-85	50-75	45-65	40-55	40-50	20-30
	14-24	Bedrock			---	---	---	---	---	---	---	---
Tunnison-----	0-2	Cobbly clay	CH	A-7	0	15-40	85-95	80-90	75-90	65-90	60-70	35-45
	2-27	Clay	CH	A-7	0	0	100	100	95-100	90-95	60-75	40-50
	27-30	Bedrock			---	---	---	---	---	---	---	---
	30-40	Bedrock			---	---	---	---	---	---	---	---
416:												
Hangrock-----	0-4	Very gravelly ashy loam	GC	A-2	0	0-5	40-60	30-50	25-40	10-20	20-25	5-10
	4-17	Gravelly ashy clay loam, gravelly ashy loam	GC, SC	A-6	0	0-5	60-80	50-75	45-70	30-45	30-40	10-15
	17-60	Cemented material			---	---	---	---	---	---	---	---
417:												
Harskel-----	0-3	Extremely cobbly ashy loam	GM	A-2, A-4	5-15	50-70	40-55	30-50	25-45	20-40	30-35	5-10
	3-8	Very cobbly ashy loam	CL-ML, SC, CL, SC-SM	A-4, A-6	5-25	10-60	70-85	65-80	55-70	40-55	25-35	5-15
	8-19	Extremely cobbly ashy loam	GC	A-2, A-4, A-6	5-15	50-70	40-55	30-50	25-45	20-40	25-35	5-15
	19-29	Bedrock			---	---	---	---	---	---	---	---
Brownsbowl-----	0-10	Gravelly ashy sandy loam	SM	A-2, A-4	0	0	80-90	70-85	55-70	30-45	15-25	NP
	10-28	Gravelly ashy sandy loam	SM	A-4, A-2	0	2-10	85-90	80-85	60-70	30-40	15-25	NP
	28-34	Cobbly ashy sandy loam	SM	A-2	0-1	15-25	75-85	70-80	55-65	25-40	10-20	NP
	34-41	Very cobbly ashy sandy loam	SM	A-1, A-2	0-2	25-35	60-70	50-60	35-50	20-30	10-20	NP
	41-61	Extremely cobbly ashy fine sandy loam	GM	A-1	0-5	40-50	40-55	35-50	25-45	15-25	10-15	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Runyon-----	0-2	Gravelly loam	CL-ML, SC	A-4	1-5	5-15	75-85	65-85	60-70	45-55	20-30	5-10
	2-5	Loam	ML	A-4	0	0	85-100	80-100	65-85	55-75	25-35	4-7
	5-25	Gravelly loam	GM	A-4	0	1-5	60-80	50-75	45-70	40-60	25-35	5-10
	25-37	Cobbly loam, cobbly clay loam	CL-ML, CL	A-4, A-6	0-5	20-45	85-100	80-95	65-75	55-65	25-35	5-15
	37-72	Bedrock			---	---	---	---	---	---	---	---
426: Hovey-----	0-10	Silty clay loam	CL	A-7	0	0	100	100	90-100	70-85	35-50	15-25
	10-48	Silt loam, silty clay loam	CL	A-6	0	0	100	100	90-100	70-85	30-45	10-20
	48-72	Stratified fine sandy loam to silty clay loam	CL	A-6	0	0	100	100	90-100	60-85	25-45	10-25
427: Hussa-----	0-12	Ashy clay loam	CL, ML	A-6, A-7	0	0	95-100	95-100	85-95	70-80	30-50	10-20
	12-60	Stratified ashly sandy clay loam to ashly silty clay loam	CL, ML	A-6, A-7	0	0	95-100	95-100	85-95	50-80	30-50	10-20
428: Hussa-----	0-12	Ashy clay loam	CL, ML	A-6	0	0	95-100	95-100	85-95	70-80	30-50	10-20
	12-45	Stratified ashly sandy clay loam to ashly silty clay loam	CL, ML	A-6	0	0	95-100	95-100	85-95	50-80	30-50	10-20
	45-60	Clay	CH	A-7	0	0	95-100	95-100	95-100	85-95	50-70	25-40
429: Hussa-----	0-12	Ashy loam	ML	A-4	0	0	95-100	95-100	85-95	60-75	25-35	NP-10
	12-45	Stratified ashly sandy clay loam to ashly silty clay loam	CL, ML	A-6	0	0	95-100	95-100	85-95	50-80	30-50	10-20
	45-60	Clay	CH	A-7	0	0	95-100	95-100	95-100	85-95	50-70	25-40
430: Hussa-----	0-12	Ashy loam	ML	A-4	0	0	95-100	95-100	85-95	60-75	25-35	NP-10
	12-60	Stratified ashly sandy clay loam to ashly silty clay loam	CL, ML	A-6	0	0	95-100	95-100	85-95	50-80	30-50	10-20
431: Hussa-----	0-12	Ashy loam	ML	A-4	0	0	95-100	95-100	85-95	60-75	25-35	NP-10
	12-60	Stratified ashly sandy clay loam to ashly silty clay loam	CL, ML	A-6	0	0	95-100	95-100	85-95	50-80	30-50	10-20
432: Hussa-----	0-10	Ashy loam	ML	A-4	0	0	100	100	85-95	60-75	25-35	NP-10
	10-40	Stratified ashly sandy clay loam to ashly silty clay loam	CL, ML	A-6	0	0	100	100	85-95	60-80	30-50	10-20
	40-60	Ashy silty clay loam, silty clay, clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-55	25-35

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
Cavin-----	In											
	0-2	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobbly ashy very fine sandy loam, extremely gravelly ashy very fine sandy loam, extremely cobbly ashy sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5
Brownsbowl-----	0-10	Gravelly ashy sandy loam	SM	A-2, A-4	0	0	80-90	70-85	55-70	30-45	15-25	NP
	10-28	Gravelly ashy sandy loam	SM	A-4, A-2	0	2-10	85-90	80-85	60-70	30-40	15-25	NP
	28-34	Cobbly ashy sandy loam	SM	A-2	0-1	15-25	75-85	70-80	55-65	25-40	10-20	NP
	34-41	Very cobbly ashy sandy loam	SM	A-1, A-2	0-2	25-35	60-70	50-60	35-50	20-30	10-20	NP
	41-61	Extremely cobbly ashy fine sandy loam	GM	A-1	0-5	40-50	40-55	35-50	25-45	15-25	10-15	NP
438: Hutchley-----	0-6	Very cobbly sandy loam	SM	A-1, A-2	0	30-40	60-70	50-70	35-60	20-35	15-25	NP-5
	6-14	Very gravelly clay loam, extremely gravelly loam, very cobbly clay loam	GC, SC	A-2, A-6	0-5	10-40	45-70	35-55	15-55	10-40	30-40	10-15
	14-24	Bedrock			---	---	---	---	---	---	---	---
Cavin-----	0-2	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobbly ashy very fine sandy loam, extremely gravelly ashy very fine sandy loam, extremely cobbly ashy sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
443: Jaybee-----	In											
	0-4	Very cobbly loam	SC-SM, GC, GC-GM, SC	A-4, A-6	0-2	45-60	65-75	55-65	45-55	35-45	25-35	5-15
	4-14	Gravelly clay, gravelly clay loam	CL, SC	A-7	0	0-10	75-85	50-75	45-65	40-55	40-50	20-30
	14-24	Bedrock			---	---	---	---	---	---	---	---
Verdico-----	0-3	Cobbly sandy loam	SM	A-2	5-10	10-20	85-100	75-85	50-60	20-30	---	NP
	3-17	Clay	CH	A-7	0	0-5	85-95	85-95	75-95	65-90	50-65	30-45
	17-22	Gravelly clay	CH	A-7	0	0-5	75-95	65-75	60-75	50-70	50-65	30-45
	22-32	Bedrock			---	---	---	---	---	---	---	---
444: Reddie-----	0-34	Loam	CL, CL-ML	A-4, A-6	0	0	80-100	75-100	65-85	50-65	25-35	5-15
	34-50	Stratified sandy loam to clay loam	CL, CL-ML	A-4, A-6	0	0	80-100	75-100	65-85	50-65	25-35	5-15
	50-60	Stratified very gravelly loamy coarse sand to very gravelly sandy clay loam	GC-GM, GM, GP-GC, GP-GM	A-1, A-2	0	0	30-55	25-50	15-40	5-25	20-30	NP-10
445: Leviathan-----	0-8	Very gravelly loam	GC-GM, GM	A-2, A-4	0-2	0-15	50-70	35-55	30-50	25-40	20-30	NP-10
	8-60	Very gravelly sandy clay loam	GC	A-2	0-5	5-25	40-60	25-45	20-30	15-25	35-45	15-20
446: Lolak-----	0-4	Silty clay	CH, MH	A-7	0	0	100	100	95-100	85-95	50-65	20-35
	4-60	Stratified silty loam to clay	CH, MH	A-7	0	0	100	100	90-100	80-95	50-65	20-35
447: Longdis-----	0-5	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	35-45	15-25
	5-26	Silty clay, clay	CH	A-7	0	0	100	100	95-100	85-95	50-65	25-35
	26-45	Silty clay loam, silty clay, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-55	20-30
	45-61	Stratified silty clay loam to clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-55	20-30
Dugway-----	0-5	Fine sandy loam	SM	A-2, A-4	0	0	100	100	70-90	25-40	15-25	NP-5
	5-18	Silty clay loam, clay, silty clay	CH, CL	A-7	0	0	100	100	95-100	90-95	40-55	20-30
	18-35	Loam, silty loam, silty clay loam	ML	A-4, A-6	0	0	100	100	95-100	75-95	30-40	5-15
	35-52	Cemented material			---	---	---	---	---	---	---	---
	52-61	Stratified silty loam to silty clay loam	CL	A-6, A-7	0	0	100	100	90-100	70-95	25-45	10-20

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
457: Macnot-----	In											
	0-1	Very gravelly ashy sandy loam	GM	A-1	0	0	45-60	35-50	25-45	10-25	---	NP
	1-6	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	6-16	Very gravelly ashy sandy loam	GM	A-1	0	0	30-55	25-50	15-40	10-25	---	NP
	16-24	Very gravelly ashy loamy sand	GM	A-1	0	0	40-55	25-50	15-35	10-20	---	NP
	24-60	Stratified extremely gravelly ash coarse sand to very gravelly ashy sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP
Gozell-----	0-8	Very gravelly sandy loam	GM	A-1, A-2	0	0-5	30-55	25-50	20-40	15-25	25-35	NP-10
	8-12	Gravelly clay loam, gravelly sandy clay loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-20
	12-30	Gravelly clay loam, gravelly sandy clay loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-20
	30-60	Stratified extremely gravelly coarse sand to very gravelly sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP
Macnot, nearly level-----	0-1	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	1-6	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	6-16	Very gravelly ashy sandy loam	GM	A-1	0	0	30-55	25-50	15-40	10-25	---	NP
	16-24	Very gravelly ashy loamy sand	GM	A-1	0	0	40-55	25-50	15-35	10-20	---	NP
	24-60	Stratified extremely gravelly ash coarse sand to very gravelly ashy sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP
458: Macnot, nearly level-----	0-1	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	1-6	Gravelly ash sandy loam	SM, GM	A-4, A-1, A-2	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	6-16	Very gravelly ashy sandy loam	GM	A-1	0	0	30-55	25-50	15-40	10-25	---	NP
	16-24	Very gravelly ashy loamy sand	GM	A-1	0	0	40-55	25-50	15-35	10-20	---	NP
	24-60	Stratified extremely gravelly ash coarse sand to very gravelly ashy sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
460: Macnot-----	0-1	Very gravelly ashy sandy loam	GM	A-1	0	0	45-60	35-50	25-45	10-25	---	NP
	1-6	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	6-16	Very gravelly ashy sandy loam	GM	A-1	0	0	30-55	25-50	15-40	10-25	---	NP
	16-24	Very gravelly ashy loamy sand	GM	A-1	0	0	40-55	25-50	15-35	10-20	---	NP
	24-60	Stratified extremely gravelly ash coarse sand to very gravelly ashy sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP
Macnot, nearly level-----	0-1	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	1-6	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	6-16	Very gravelly ashy sandy loam	GM	A-1	0	0	30-55	25-50	15-40	10-25	---	NP
	16-24	Very gravelly ashy loamy sand	GM	A-1	0	0	40-55	25-50	15-35	10-20	---	NP
	24-60	Stratified extremely gravelly ash coarse sand to very gravelly ashy sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP
Nomazu, moderately saline-----	0-7	Ashy very fine sandy loam	ML	A-4	0	0	95-100	90-100	80-90	50-60	25-35	NP-5
	7-10	Ashy fine sandy loam, ash sandy loam, ashy very fine sandy loam	ML, SM	A-4	0	0	95-100	90-100	65-85	35-55	25-30	NP
	10-13	Ashy sandy loam, ash fine sandy loam, ash very fine sandy loam	SM, ML	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	13-29	Ashy sandy loam, ash fine sandy loam, ash very fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	29-38	Ashy sandy loam, ash fine sandy loam, ash very fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	38-48	Ashy fine sandy loam, ash very fine sandy loam, very paragravelly ashy fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
	48-60	Ashy fine sandy loam, ashy very fine sandy loam, very paragravelly ashy fine sandy loam, paragravelly ashy fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
461: Madeline-----	0-5	Very stony loam	CL, CL-ML, SC	A-4	25-45	10-25	80-90	75-85	60-75	40-60	25-35	5-15
	5-9	Gravelly clay, gravelly clay loam	SC, GC	A-7	0	0-5	60-80	50-75	45-55	35-40	45-50	20-25
	9-16	Gravelly clay	CH, GC	A-7	0	0-5	60-80	50-75	50-70	40-60	55-60	25-35
	16-29	Bedrock			---	---	---	---	---	---	---	---
Sumine-----	0-5	Cobbly loam	CL, CL-ML	A-4	0	20-30	80-90	75-85	65-75	50-65	20-30	5-10
	5-11	Very gravelly clay loam, very gravelly loam	GC	A-2, A-6, A-7	0	15-20	45-65	40-60	35-45	25-45	35-45	15-25
	11-24	Very cobbly clay loam	GC	A-2, A-6, A-7	0	30-40	50-70	45-65	40-50	30-45	35-45	15-25
	24-34	Bedrock			---	---	---	---	---	---	---	---
462: Mazuma-----	0-6	Fine sandy loam	SM	A-4	0	0	95-100	85-100	70-85	30-50	25-30	NP-5
	6-62	Stratified gravelly coarse sand to silt loam	SM	A-4	0	0	95-100	75-100	70-90	35-50	20-25	NP-5
Bighat-----	0-2	Cobbly sandy loam	SM	A-2	5-15	15-25	75-85	60-80	40-60	25-35	15-25	NP-5
	2-9	Stony loam, stony sandy loam	GM, ML, SM	A-4	5-10	10-15	65-85	60-80	50-65	35-55	15-25	NP-5
	9-16	Stony sandy clay loam, stony clay loam	SC	A-2, A-6, A-7	5-10	5-15	70-85	65-80	50-70	30-50	35-45	15-25
	16-31	Extremely stony sand, extremely stony coarse sand, extremely cobbly sand	GP	A-1	15-50	15-45	25-50	20-45	10-25	0-5	---	NP
	31-60	Extremely gravelly sand, extremely gravelly coarse sand	GP, GW	A-1	10-25	10-25	15-35	10-30	5-15	0-5	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Softscrabble----	0-20	Cobbly loam	CL-ML, SC	A-4	1-5	5-15	80-90	75-85	60-70	45-55	20-30	5-10
	20-32	Very cobbly clay loam, extremely cobbly clay loam	CL, GC	A-6, A-2	0-5	25-70	50-80	40-70	35-60	30-55	35-40	15-20
	32-61	Clay loam, gravelly clay loam	CL	A-7	0-5	0-10	75-100	60-90	60-80	50-70	40-50	15-25
	61-71	Bedrock			---	---	---	---	---	---	---	---
Badgercamp-----	0-5	Bouldery loam	ML, SM	A-4	3-15	0-10	75-95	70-90	40-70	35-65	---	NP
	5-15	Extremely gravelly loam, very gravelly loam	GC-GM, GM, GP-GC, GP-GM	A-1	2-4	5-10	15-50	10-45	5-35	5-30	20-30	NP-10
	15-25	Bedrock			---	---	---	---	---	---	---	---
467: Nevadash-----	0-2	Ashy fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	25-30	5-10
	2-5	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	5-17	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	17-28	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	28-44	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	44-68	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-80	50-70	40-65	20-50	20-30	NP-5
468: Nevadash-----	0-2	Ashy fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	25-30	5-10
	2-5	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	5-17	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	17-28	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	28-44	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	44-68	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-80	50-70	40-65	20-50	20-30	NP-5
469: Nevadash-----	0-2	Ashy loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	75-90	5-20	0-14	NP
	2-5	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	5-17	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	17-28	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	28-44	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	44-68	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-80	50-70	40-65	20-50	20-30	NP-5

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
470: Nevadash-----	0-2	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	2-5	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	5-17	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	17-28	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	28-44	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	44-68	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-80	50-70	40-65	20-50	20-30	NP-5
Couch-----	0-1	Ashy fine sandy loam	SC-SM	A-4	0	0	100	100	75-85	35-50	25-30	5-10
	1-6	Clay loam, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	6-13	Clay loam, clay	CL, CH	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	13-22	Clay loam	CH, CL	A-7	0	0	100	100	90-100	75-95	45-60	20-35
	22-60	Stratified ash sandy loam to ashy silt loam	CL, ML, SC- SM, SM	A-4	0	0	80-100	75-100	60-95	40-65	25-35	5-10
471: Nevadash-----	0-2	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	2-5	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	5-17	Ashy sandy clay loam	SM	A-2, A-4	0	0	90-100	85-100	60-75	30-45	35-40	5-10
	17-28	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	28-44	Ashy sandy loam, ash fine sandy loam	SM	A-4, A-2	0	0	90-100	85-100	65-80	30-50	25-30	NP
	44-68	Gravelly ash sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-80	50-70	40-65	20-50	20-30	NP-5
Gorzell-----	0-8	Very gravelly sandy loam	GM	A-1, A-2	0	0-5	30-55	25-50	20-40	15-25	25-35	NP-10
	8-12	Gravelly clay loam, gravelly sandy clay loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-20
	12-30	Gravelly clay loam, gravelly sandy clay loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-20
	30-60	Stratified extremely gravelly coarse sand to very gravelly sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Bidrim-----	0-3	Extremely stony loam	GM	A-2	25-40	25-35	40-60	35-60	30-50	25-40	20-25	NP-5
	3-8	Clay loam	CL	A-7	0-1	0-5	80-95	75-95	70-90	55-70	40-45	15-20
	8-13	Clay	CH	A-7	0-1	0-5	90-95	85-95	80-90	65-75	60-70	30-40
	13-23	Bedrock			---	---	---	---	---	---	---	---
483:												
Nitpac-----	0-8	Very cobbly loam	GM, SM	A-4	0-5	40-55	60-80	50-70	40-60	30-50	30-40	NP-10
	8-21	Clay	CH	A-7	0	0-5	95-100	85-100	70-95	60-80	55-70	35-50
	21-26	Gravelly clay loam, gravelly clay	CL, GC, SC	A-7	0	0-5	60-85	50-75	45-65	40-60	40-50	15-25
	26-34	Cemented material			---	---	---	---	---	---	---	---
	34-44	Bedrock			---	---	---	---	---	---	---	---
Tunnison-----	0-2	Very cobbly clay	CH	A-7	0	40-70	80-90	60-70	55-70	50-65	60-75	35-45
	2-27	Clay	CH	A-7	0	0	100	100	95-100	90-95	60-75	40-50
	27-30	Bedrock			---	---	---	---	---	---	---	---
	30-40	Bedrock			---	---	---	---	---	---	---	---
Devada-----	0-6	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-4	0-5	30-65	55-75	50-70	40-50	30-45	25-35	5-15
	6-17	Gravelly clay, clay	CH, GC	A-7	0	0-5	65-100	55-100	50-90	35-70	50-65	25-35
	17-27	Bedrock			---	---	---	---	---	---	---	---
484:												
Nomazu-----	0-7	Ashy very fine sandy loam	ML	A-4	0	0	95-100	90-100	80-90	50-60	25-35	NP-5
	7-10	Ashy fine sandy loam, ash sandy loam, ash very fine sandy loam	ML, SM	A-4	0	0	95-100	90-100	65-85	35-55	25-30	NP
	10-13	Ashy sandy loam, ash fine sandy loam, ash very fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	13-29	Ashy sandy loam, ash fine sandy loam, ash very fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	29-38	Ashy sandy loam, ash fine sandy loam, ash very fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	38-48	Ashy fine sandy loam, ash very fine sandy loam, very paragravelly ash fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In											
	48-60	Ashy fine sandy loam, ashy very fine sandy loam, very paragravelly ashy fine sandy loam, paragravelly ashy fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
Macnot-----	0-1	Very gravelly ashy sandy loam	GM	A-1	0	0	45-60	35-50	25-45	10-25	---	NP
	1-6	Ashy gravelly sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	6-16	Very gravelly ashy sandy loam	GM	A-1	0	0	30-55	25-50	15-40	10-25	---	NP
	16-24	Very gravelly ashy loamy sand	GM	A-1	0	0	40-55	25-50	15-35	10-20	---	NP
	24-60	Stratified extremely gravelly ashy coarse sand to very gravelly ashy sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP
485: Nomazu, moderately saline-----	0-7	Ashy very fine sandy loam	ML	A-4	0	0	95-100	90-100	80-90	50-60	25-35	NP-5
	7-10	Ashy fine sandy loam, ashy sandy loam, ashy very fine sandy loam	ML, SM	A-4	0	0	95-100	90-100	65-85	35-55	25-30	NP
	10-13	Ashy sandy loam, ashy fine sandy loam, ashy very fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	13-29	Ashy sandy loam, ashy fine sandy loam, ashy very fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	29-38	Ashy sandy loam, ashy fine sandy loam, ashy very fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP
	38-48	Ashy fine sandy loam, ashy very fine sandy loam, very paragravelly ashy fine sandy loam	ML, SM	A-4	0	0	95-100	95-100	65-85	35-55	25-30	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
489: Nowack-----	In											
	0-1	Very gravelly moderately decomposed plant material	GM, SM	A-1	0-10	0-10	55-70	35-50	25-40	20-30	20-30	NP-5
	1-10	Very gravelly ashy loam	GM, SM	A-1	0-10	0-10	55-70	35-50	25-40	20-30	20-30	NP-5
	10-42	Very gravelly ashy loam, very gravelly ashy sandy clay loam	GC	A-2, A-6	0-8	0-10	35-55	30-50	25-45	20-40	30-40	10-15
	42-52	Bedrock			---	---	---	---	---	---	---	---
Fendersflat, cool-----												
	0-7	Gravelly ashy loam	GM, ML, SM	A-4	0	0-5	55-80	50-75	45-65	35-55	25-30	NP-5
	7-25	Extremely cobbly ashy loam, very cobbly ashy loam, very gravelly ashy loam	GC, SC	A-2, A-6	0-10	15-60	40-80	35-70	30-60	20-45	30-35	10-15
	25-35	Bedrock			---	---	---	---	---	---	---	---
490: Nutzan-----												
	0-10	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	10-17	Gravelly ashy sandy loam	GM, SM	A-2	0	0-5	60-85	50-75	30-40	25-35	20-30	NP-5
	17-28	Very gravelly ashy sandy loam	GM	A-1	0	0-5	30-55	25-50	20-40	10-25	20-30	NP-5
	28-36	Extremely gravelly ashy coarse sandy loam, extremely gravelly ashy sandy loam	GP-GM	A-1	0	0-5	15-35	10-25	10-20	5-10	20-30	NP-5
	36-46	Bedrock			---	---	---	---	---	---	---	---
Cavin-----												
	0-2	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	2-11	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	11-18	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	18-24	Very gravelly ashy sandy loam	GP-GM, SM	A-1	0-2	10-25	45-65	30-50	25-40	10-15	25-30	NP-5
	24-60	Extremely cobbly ashy very fine sandy loam, extremely gravelly ashy very fine sandy loam, extremely cobbly ashy sandy loam	GM	A-2, A-1	1-5	30-50	30-65	25-55	25-45	10-35	25-30	NP-5

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
497: Old Camp-----	In											
	0-2	Very stony sandy loam	GC-GM, GM	A-2, A-1	20-40	10-20	45-70	40-65	30-50	15-30	15-25	NP-10
	2-14	Extremely stony clay loam, very cobbly sandy clay loam, very stony clay loam	GC	A-2, A-6	25-55	25-55	45-60	40-55	35-45	30-40	30-40	15-25
	14-24	Bedrock			---	---	---	---	---	---	---	---
Ceejay-----	0-2	Very stony loam	GC-GM, GM, SC, SM	A-4	5-25	10-20	60-85	50-80	40-60	30-50	25-35	5-10
	2-16	Gravelly clay loam, gravelly clay, cobbly clay loam	GC, SC	A-7	0-5	10-25	65-90	60-85	50-70	35-50	40-50	15-25
	16-26	Bedrock			---	---	---	---	---	---	---	---
498: Old Camp-----	0-2	Very cobbly loam	GC-GM, GM	A-2	0-5	25-50	60-70	55-65	45-55	30-40	15-25	NP-10
	2-14	Extremely stony clay loam, very cobbly sandy clay loam, very stony clay loam	GC	A-2, A-6	25-55	25-55	45-60	40-55	35-45	30-40	30-40	15-25
	14-24	Bedrock			---	---	---	---	---	---	---	---
Gorzell-----	0-8	Gravelly loam	ML	A-4	0	0-10	80-90	60-75	55-65	50-60	20-30	NP-5
	8-12	Gravelly clay loam, gravelly sandy clay loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-20
	12-30	Gravelly clay loam, gravelly sandy clay loam	GC, SC	A-6	0	0-5	55-80	50-75	40-70	35-50	30-40	10-20
	30-60	Stratified extremely gravelly coarse sand to very gravelly sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP
Macnot-----	0-1	Very gravelly ashy sandy loam	GM	A-1	0	0	45-60	35-50	25-45	10-25	---	NP
	1-6	Gravelly ashy sandy loam	SM, GM	A-1, A-2, A-4	0	0	55-75	50-70	40-65	20-50	20-30	NP-5
	6-16	Very gravelly ashy sandy loam	GM	A-1	0	0	30-55	25-50	15-40	10-25	---	NP
	16-24	Very gravelly ashy loamy sand	GM	A-1	0	0	40-55	25-50	15-35	10-20	---	NP
	24-60	Stratified extremely gravelly ashy coarse sand to very gravelly ashy sand	GP	A-1	0	0-15	15-35	10-25	5-15	0-5	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
Skidbrackle-----	In											
	0-4	Very gravelly ashy sandy loam	GM, SM	A-1	0-10	0-10	55-70	35-50	25-40	20-30	20-30	NP-5
	4-14	Extremely gravelly ashy loam, extremely gravelly ashy sandy clay loam	GP-GC	A-2	0-10	0-10	25-45	10-30	5-20	0-15	30-35	10-15
	14-24	Bedrock			---	---	---	---	---	---	---	---
522:												
Paypoint-----	0-5	Gravelly ashy fine sandy loam	SM	A-2, A-4	0	0	70-90	65-75	50-75	20-40	---	NP
	5-17	Ashy sandy clay loam, ashy loam	CL-ML, CL	A-4	0	0	90-100	90-100	75-90	60-75	25-30	5-10
	17-60	Stratified very gravelly sand to gravelly loamy sand	SM, SP, SP-SM	A-1	0	0	50-70	35-45	25-40	0-20	---	NP
Langston-----	0-3	Gravelly sandy loam	SM	A-1	0	0-10	80-90	65-75	40-50	20-30	0-14	NP
	3-11	Sandy clay loam, gravelly clay loam, gravelly loam	CL, GC, SC	A-6	0	0-10	60-85	50-80	35-60	25-55	30-40	10-20
	11-60	Stratified extremely gravelly coarse sand to gravelly sand	GP, GW	A-1	0	10-25	10-40	5-25	0-15	0-5	0-14	NP
523:												
Pickup-----	0-8	Very stony loam	GC, GC-GM	A-2	15-25	10-20	55-65	40-55	30-45	20-35	25-35	5-15
	8-34	Very gravelly clay	GC	A-2, A-7	0-5	10-25	50-65	35-50	30-50	25-45	45-60	20-30
	34-44	Bedrock			---	---	---	---	---	---	---	---
Bucklake-----	0-8	Very cobbly loam	CL, CL-ML, SC, SC-SM	A-4	5-25	10-60	70-85	65-80	55-70	40-55	25-35	5-15
	8-12	Gravelly clay loam	CL, GC	A-6	0	0-10	55-75	50-70	45-65	40-55	30-40	10-20
	12-24	Gravelly clay, gravelly clay loam	CH, CL, GC	A-7	0	0-10	55-75	50-70	45-65	40-60	40-60	20-35
	24-34	Bedrock			---	---	---	---	---	---	---	---
524:												
Pickup-----	0-8	Very stony loam	GC, GC-GM	A-2	15-25	10-20	55-65	40-55	30-45	20-35	25-35	5-15
	8-34	Very gravelly clay	GC	A-2, A-7	0-5	10-25	50-65	35-50	30-50	25-45	45-60	20-30
	34-44	Bedrock			---	---	---	---	---	---	---	---
Nosavvy-----	0-6	Very cobbly ashy loam	SM, GM	A-1, A-2	0-5	25-45	50-70	45-65	35-50	20-35	20-30	NP-5
	6-29	Cobbly ashy sandy clay loam, gravelly ashy sandy clay loam	SM	A-2	0-3	5-30	65-90	60-85	40-65	15-35	35-40	5-10
	29-36	Very cobbly ashy sandy loam	GM	A-1, A-2	0-5	30-50	50-65	45-60	30-50	10-30	25-30	NP-5
	36-63	Paragravelly ashy sandy loam	SM	A-4, A-2	0	0-5	95-100	90-100	60-75	30-50	25-30	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
In					Pct	Pct					Pct	
Skedaddle-----	0-5	Very stony loam	SC, GC	A-2, A-6	5-25	5-45	60-80	50-70	40-60	30-45	25-35	10-15
	5-11	Very gravelly loam	GC-GM, GM	A-1, A-2	0-1	0-15	50-60	35-45	30-40	20-30	15-25	NP-10
	11-21	Bedrock			---	---	---	---	---	---	---	---
525: Pits, gravel----	---	---	---	---	---	---	---	---	---	---	---	---
526: Pits, mine-----	0-60	Bedrock			---	---	---	---	---	---	---	---
Dumps, mine-----	---	---	---	---	---	---	---	---	---	---	---	---
527: Playas-----	0-6	Silty clay loam	CL	A-7, A-6	0	0	100	100	100	90-100	25-50	20-40
	6-60	Silty clay loam, clay, silty clay	CH, MH, CL	A-7	0	0	100	100	100	90-100	45-75	20-40
528: Pyropatti, cool-	0-9	Gravelly ashy loam	GM, ML, SM	A-4	0	0-5	55-80	50-75	45-65	35-55	25-30	NP-5
	9-20	Very gravelly ashy sandy loam, very gravelly ashy loam	GM	A-2, A-4	0-8	0-10	35-55	30-50	25-45	20-40	30-40	5-10
	20-30	Very gravelly ashy loam, very gravelly ashy sandy loam	GM	A-2, A-4	0-8	0-10	35-55	30-50	25-45	20-40	30-40	5-10
	30-48	Very gravelly ashy loam, very gravelly ashy sandy loam	GM	A-2, A-4	0-8	0-10	35-55	30-50	25-45	20-40	30-40	5-10
	48-58	Bedrock			---	---	---	---	---	---	---	---
Pyropatti-----	0-9	Gravelly ashy loam	GM, ML, SM	A-4	0	0-5	55-80	50-75	45-65	35-55	25-30	NP-5
	9-20	Very gravelly ashy sandy loam, very gravelly ashy loam	GM	A-2, A-4	0-8	0-10	35-55	30-50	25-45	20-40	30-40	5-10
	20-30	Very gravelly ashy loam, very gravelly ashy sandy loam	GM	A-2, A-4	0-8	0-10	35-55	30-50	25-45	20-40	30-40	5-10
	30-48	Very gravelly ashy loam, very gravelly ashy sandy loam	GM	A-2, A-4	0-8	0-10	35-55	30-50	25-45	20-40	30-40	5-10
	48-58	Bedrock			---	---	---	---	---	---	---	---
529: Raglan-----	0-2	Very fine sandy loam	CL	A-4	0	0	95-100	95-100	85-95	70-80	20-30	5-10
	2-13	Silt loam	CL, CL-ML	A-4, A-6	0	0	95-100	95-100	85-95	75-85	25-40	5-15
	13-64	Stratified very fine sandy loam to silty clay loam	CL, ML	A-4	0	0	95-100	95-100	85-95	70-80	30-40	5-15

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
540:												
Reywat-----	0-6	Very stony loam	GC-GM, GM, GC	A-4	30-55	15-45	55-75	50-70	40-65	35-50	25-35	5-10
	6-18	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2	0-5	5-20	40-60	35-55	30-45	25-40	35-50	15-25
	18-28	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
Marepas-----	0-0	Slightly decomposed plant material			0	0	---	---	---	---	---	---
	0-5	Very gravelly mucky ashy sandy loam	SM, GP-GM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	5-13	Very cobbly ashy sandy clay loam	GM	A-2, A-1	0-25	30-45	55-65	55-60	35-45	20-30	30-40	5-10
	13-23	Bedrock			---	---	---	---	---	---	---	---
541:												
Rubble land-----	0-60	Fragmental material	GP	A-1	35-40	40-50	0-10	0-5	0-5	0	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
542:												
Rodock-----	0-2	Gravelly sandy loam	SM, GM	A-1, A-2	0	0	55-85	50-75	35-55	20-35	15-25	NP-5
	2-20	Loam, fine sandy loam, gravelly loam	CL, CL-ML, SC, SC-SM	A-2, A-4, A-6	0	0	65-95	55-90	50-75	30-55	25-35	5-15
	20-27	Gravelly sandy loam, gravelly fine sandy loam	GM, SM	A-4, A-1, A-2	0	0	55-80	50-75	35-65	15-40	15-25	NP-5
	27-60	Stratified extremely gravelly coarse sand to very gravelly loam	GM, GW-GM	A-1	0-5	0-25	20-50	15-45	10-30	5-15	---	NP
543:												
Rubble land-----	0-60	Fragmental material	GW	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP
Dosie-----	0-5	Very gravelly loam	GC	A-2	5-10	5-10	55-65	40-55	35-45	25-35	20-30	5-10
	5-41	Very gravelly clay loam, very gravelly clay	GC, GM	A-2	0-1	15-30	45-65	35-60	30-40	20-30	40-55	20-25
	41-51	Bedrock			---	---	---	---	---	---	---	---
Menbo-----	0-6	Cobbly loam	GM, ML, SM	A-4	10-15	20-35	65-100	60-100	50-95	40-75	30-40	NP-5
	6-26	Very gravelly clay loam, very cobbly clay	SC, CH, CL, GC	A-7	0-5	25-45	45-70	35-65	30-60	20-55	40-55	15-30
	26-36	Bedrock			---	---	---	---	---	---	---	---
544:												
Rubble land-----	0-60	Fragmental material	GW, GP	A-1	30-65	30-65	0-10	0-5	0-5	0	0-14	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
557:												
Saraph-----	0-4	Ashy loamy sand	SM	A-1, A-2	0	0	95-100	75-100	45-60	20-35	---	NP
	4-9	Ashy sandy loam, ashy sandy clay loam	ML, SM	A-4	0	0	95-100	75-100	55-70	35-60	30-45	NP-5
	9-16	Ashy sandy clay loam, ashy clay loam	ML, SM	A-5	0	0	95-100	75-100	60-75	45-70	35-50	5-10
	16-30	Bedrock			---	---	---	---	---	---	---	---
Tuffo-----	0-1	Ashy fine sandy loam	SM	A-2, A-4	0	0	80-95	75-90	60-80	30-45	15-20	NP-5
	1-8	Ashy very fine sandy loam, gravelly ashy sandy loam, ashy fine sandy loam	SM	A-2, A-4	0	0	65-95	60-90	55-80	30-50	15-20	NP-5
	8-18	Bedrock			---	---	---	---	---	---	---	---
Yellowhills----	0-17	Ashy sandy loam	SM	A-2, A-4	0	0	90-100	85-100	50-70	20-50	25-35	NP-5
	17-37	Ashy sandy loam, ashy fine sandy loam	ML, SM	A-2, A-4	0	0	80-100	75-100	50-85	30-65	30-40	NP-5
	37-60	Ashy sandy loam, ashy fine sandy loam	ML, SM	A-2, A-4	0	0	80-100	75-100	50-85	30-65	30-40	NP-5
558:												
Schamp-----	0-5	Loam	CL-ML, ML, CL	A-4	0	0-5	90-100	80-95	70-85	50-75	25-35	5-10
	5-8	Clay loam	CL	A-6	0	0-5	90-100	80-95	65-95	60-80	30-40	10-15
	8-32	Clay, clay loam	CH, CL	A-7	0	0-5	90-100	80-100	75-100	70-95	45-65	20-35
	32-43	Sandy loam, sandy clay loam	SC, SC-SM	A-2, A-4, A-6	0	0-5	90-100	80-95	50-80	25-50	20-35	5-15
	43-60	Very cobbly loam, very gravelly sandy clay loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0-5	25-60	50-70	45-60	40-55	30-45	20-35	5-15
559:												
Schamp-----	0-5	Stony loam	CL-ML, SC-SM, CL	A-4	5-25	5-25	75-100	60-95	55-90	45-70	20-30	5-10
	5-8	Clay loam	CL	A-6	0	0-5	90-100	80-100	65-95	60-80	30-40	10-15
	8-32	Clay, clay loam	CH, CL	A-7	0	0-5	80-100	75-100	60-100	55-95	45-65	20-35
	32-43	Sandy loam, sandy clay loam, gravelly sandy clay loam	SC, SC-SM	A-2, A-4, A-6	0	0-5	80-100	75-90	50-80	25-50	20-35	5-15
	43-60	Very cobbly loam	GC, GC-GM, SC, SC-SM	A-2, A-4, A-6	0	35-60	60-70	50-60	40-55	30-45	20-35	5-15
560:												
Sedsked-----	0-3	Extremely gravelly loam	GC	A-2	0	0-1	20-35	15-25	10-20	5-15	30-35	10-15
	3-11	Very gravelly clay loam, very gravelly sandy clay loam, extremely gravelly clay loam, extremely gravelly sandy clay loam	GC	A-2	0	0-1	20-45	15-35	10-30	5-20	35-45	15-25
	11-21	Bedrock			0	0-1	---	---	---	---	---	---

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Skedaddle-----	0-5	Very stony loam	GC, SC	A-2, A-6	5-25	5-45	60-80	50-70	40-60	30-45	25-35	10-15
	5-11	Very gravelly loam	GC-GM, GM	A-1, A-2	0-1	0-15	50-60	35-45	30-40	20-30	15-25	NP-10
	11-21	Bedrock			---	---	---	---	---	---	---	---
561: Simpson-----	0-3	Ashy sandy loam	SM	A-2	0	0	80-100	75-95	50-70	20-35	20-30	NP-5
	3-23	Ashy clay loam, ashly clay	CH, CL, SC	A-7	0	0	90-100	85-95	70-90	40-60	40-60	15-30
	23-37	Stratified gravelly ashly loamy sand to ashly sandy loam	SM	A-1, A-2	0	0	65-90	60-85	35-55	15-35	20-30	NP-5
	37-48	Stratified gravel to ashly very gravelly sand	GP	A-1	0	0-5	25-40	20-35	15-25	0-5	---	NP
562: Simpson-----	0-3	Ashy sandy loam	SM	A-2	0	0	80-100	75-95	50-70	20-35	20-30	NP-5
	3-23	Ashy clay loam, ashly clay	CH, CL, SC	A-7	0	0	90-100	85-95	70-90	40-60	40-60	15-30
	23-37	Stratified gravelly ashly loamy sand to ashly sandy loam	SM	A-1, A-2	0	0	65-90	60-85	35-55	15-35	20-30	NP-5
	37-48	Stratified gravel to ashly very gravelly sand	GP	A-1	0	0-5	25-40	20-35	15-25	0-5	---	NP
563: Simpson-----	0-4	Ashy sandy loam	SM	A-2	0	0	80-100	75-95	50-70	20-35	20-30	NP-5
	4-23	Ashy clay loam, ashly clay	CH, CL, SC	A-7	0	0	90-100	85-95	70-90	40-60	40-60	15-30
	23-37	Stratified gravelly ashly loamy sand to ashly sandy loam	SM	A-1, A-2	0	0	65-90	60-85	35-55	15-35	20-30	NP-5
	37-48	Stratified gravel to ashly very gravelly sand	GP	A-1	0	0-5	25-40	20-35	15-25	0-5	---	NP
564: Skullwak-----	0-5	Silt loam	CL	A-6	0	0	100	100	90-100	85-100	30-40	10-20
	5-60	Stratified silty clay loam to silty clay	CH, CL	A-7	0	0	100	100	95-100	90-100	40-60	20-40
565: Snag-----	0-4	Very stony ashly sandy loam	SM	A-1	25-40	15-30	60-70	50-70	20-30	15-20	20-30	NP-5
	4-30	Extremely stony ashly sandy loam	SM	A-1	50-60	10-30	65-85	60-80	25-45	10-20	20-30	NP-5
	30-62	Very cobbly ashly sandy loam, very cobbly ashly sandy clay loam, extremely cobbly ashly sandy clay loam	GM	A-2	0-25	30-45	55-65	55-60	35-45	20-30	30-40	5-10

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
		In			Pct	Pct					Pct	
571: Soughe-----	0-4	Very cobbly loam	GC-GM, GM	A-4	0-1	20-40	55-70	50-60	45-55	35-45	20-30	NP-10
	4-17	Very gravelly clay loam, very gravelly sandy clay loam, very gravelly loam	GC, SC	A-2	0	0-15	35-65	25-55	15-25	10-20	35-40	15-20
	17-27	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	---
572: Steerlake-----	0-3	Very cobbly loam	GM	A-4, A-2	2-15	40-50	55-65	50-60	45-60	30-40	25-35	5-10
	3-6	Cobbly clay loam	CL, SC	A-4, A-6	2-15	25-40	75-85	70-80	60-75	40-60	35-45	10-20
	6-31	Clay	CH, SC	A-7	0-10	0-25	90-100	80-100	65-95	45-90	60-70	35-45
	31-48	Loam	CL	A-6	0-1	0	95-100	90-100	80-95	55-75	30-40	10-20
	48-60	Cemented material			---	---	---	---	---	---	---	---
Reywat-----	0-6	Very stony loam	GC-GM, GM, GC	A-4	30-55	15-45	55-75	50-70	40-65	35-50	25-35	5-10
	6-18	Very gravelly clay loam, very gravelly loam, very gravelly sandy clay loam	GC	A-2	0-5	5-20	40-60	35-55	30-45	25-40	35-50	15-25
	18-28	Bedrock			---	---	---	---	---	---	---	---
573: Steerlake-----	0-3	Very cobbly loam	GM	A-4, A-2	2-15	40-50	55-65	50-60	45-60	30-40	25-35	5-10
	3-6	Cobbly clay loam	CL, SC	A-4, A-6	2-15	25-40	75-85	70-80	60-75	40-60	35-45	10-20
	6-31	Clay	CH, SC	A-7	0-10	0-25	90-100	80-100	65-95	45-90	60-70	35-45
	31-48	Loam	CL	A-6	0-1	0	95-100	90-100	80-95	55-75	30-40	10-20
	48-60	Cemented material			---	---	---	---	---	---	---	---
Wylo-----	0-4	Very stony loam	GC-GM, GM, SC, SM	A-2, A-4	5-25	0-15	60-85	50-80	40-60	30-50	25-35	5-10
	4-15	Gravelly clay, gravelly clay loam, cobbly clay	GC, SC	A-7	0-5	10-30	60-90	55-85	50-70	35-50	40-50	15-25
	15-25	Bedrock			---	---	---	---	---	---	---	---
574: Surprise-----	0-9	Gravelly ashy sandy loam	SM	A-1, A-2	0	0	70-80	60-75	35-50	15-30	---	NP
	9-28	Stratified gravelly ashy sandy loam to gravelly ashy loam	SM	A-1, A-2	0	0-5	60-80	50-75	30-50	15-35	20-30	NP-5
	28-57	Stratified very gravelly ashy sandy loam to gravelly ashy loam	SM	A-1, A-2	0-1	0-5	40-80	35-75	25-50	10-35	20-30	NP-5
575: Surprise-----	0-9	Gravelly ashy sandy loam	SM	A-1, A-2	0	0	70-80	60-75	35-50	15-30	---	NP
	9-28	Stratified gravelly ashy sandy loam to gravelly ashy loam	SM	A-1, A-2	0	0-5	60-80	50-75	30-50	15-35	20-30	NP-5

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
					Pct	Pct					Pct	
Hartig-----	In											
	0-10	Very gravelly sandy loam	GM	A-1, A-2	0	5-25	40-55	35-50	25-40	15-30	15-25	NP-5
	10-21	Very gravelly loam, very gravelly sandy loam	GC-GM, GM, SC-SM, SM	A-1	0	0-10	35-75	25-50	15-45	10-35	20-30	NP-10
	21-42	Very gravelly loam, very gravelly sandy loam	GM, SM	A-1	0	0-10	35-75	25-50	15-45	10-35	20-25	NP-5
	42-52	Bedrock			---	---	---	---	---	---	---	---
580:												
Updike-----	0-4	Silt loam	ML	A-4	0	0	100	100	95-100	70-85	20-30	NP-5
	4-36	Clay, silty clay, silty clay loam	CH	A-7	0	0	100	100	95-100	85-95	50-65	30-40
	36-60	Stratified sandy clay loam to clay	CH, CL	A-6, A-7	0	0	95-100	95-100	80-100	50-65	35-55	20-35
Longdis-----	0-5	Silty clay loam	CL	A-6	0	0	100	100	95-100	85-95	35-45	15-25
	5-26	Silty clay, clay	CH	A-7	0	0	100	100	95-100	85-95	50-65	25-35
	26-45	Silty clay loam, silty clay, clay	CH, CL	A-7	0	0	100	100	90-100	75-95	45-55	20-30
	45-61	Stratified silty clay loam to clay	CH, CL	A-7	0	0	100	100	95-100	85-95	45-55	20-30
581:												
Updike-----	0-4	Silt loam	ML	A-4	0	0	100	100	95-100	70-85	20-30	NP-5
	4-36	Clay, silty clay, silty clay loam	CH	A-7	0	0	100	100	95-100	85-95	50-65	30-40
	36-60	Stratified sandy clay loam to clay	CH, CL	A-6, A-7	0	0	95-100	95-100	80-100	50-65	35-55	20-35
Mazuma-----	0-6	Fine sandy loam	SM	A-4	0	0	95-100	85-100	70-85	30-50	25-30	NP-5
	6-62	Stratified gravelly coarse sand to silt loam	SM	A-4	0	0	95-100	75-100	70-90	35-50	20-25	NP-5
582:												
Valmy-----	0-2	Fine sandy loam	ML, SM	A-2, A-4	0	0-5	85-100	80-100	60-80	30-55	15-25	NP-5
	2-53	Stratified very fine sandy loam to gravelly coarse sandy loam	SM	A-1, A-2, A-4	0	0-5	80-100	75-100	40-70	20-45	15-25	NP-5
	53-60	Gravelly sand, very gravelly sand	GM, GP-GM, SM, SP-SM	A-1	0	0-10	40-75	30-70	20-45	5-15	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
	In				Pct	Pct					Pct	
Crazybird-----	0-3	Very gravelly ashy sandy loam	GM, SM	A-1	0-10	0-10	55-70	35-50	25-40	20-30	20-30	NP-5
	3-15	Very gravelly ashy loam, very gravelly ashy sandy clay loam	GC	A-2, A-6	0-8	0-10	35-55	30-50	25-45	20-40	30-40	10-15
	15-25	Bedrock			---	---	---	---	---	---	---	---
587:												
Weezweed-----	0-16	Ashy loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	16-60	Stratified gravelly loamy sand to silty clay loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
Emagert-----	0-14	Ashy loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	14-38	Stratified sandy loam to silty clay loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	38-60	Stratified gravelly loamy sand to silty clay loam	ML	A-4	0	0	95-100	85-100	75-85	50-60	30-40	5-10
Wetvit-----	0-16	Ashy fine sandy loam	SM	A-4	0	0	95-100	85-100	75-90	40-50	30-35	NP-5
	16-44	Stratified ashy sandy loam to ashy clay loam	ML	A-4	0	0	95-100	85-100	80-90	50-60	30-40	5-10
	44-60	Stratified gravelly ashy loamy sand to ashy clay loam	ML	A-4	0	0	90-100	80-100	75-85	50-60	30-40	5-10
588:												
Weimer-----	0-7	Clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
	7-48	Clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
	48-60	Clay, silty clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
589:												
Weimer-----	0-7	Clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
	7-48	Clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
	48-60	Clay, silty clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
Boulder Lake----	0-2	Silty clay	CH	A-7	0	0	100	100	90-100	80-95	60-70	45-55
	2-60	Clay, silty clay	CH	A-7	0	0	100	100	90-100	80-95	60-70	45-55
590:												
Weimer-----	0-7	Clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
	7-48	Clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
	48-60	Clay, silty clay	CH	A-7	0	0	100	100	90-100	75-95	60-75	35-50
Grimlake-----	0-2	Cobbly clay	CH	A-7	0-1	15-40	75-95	70-90	65-90	55-80	55-75	30-50
	2-5	Clay	CH	A-7	0	0	100	90-100	85-90	70-85	55-75	30-50
	5-14	Clay	CH	A-7	0	0	100	90-100	85-90	70-85	55-75	30-50
	14-32	Clay	CH	A-7	0	0	100	90-100	85-90	70-85	55-75	30-50
	32-43	Sandy clay loam, clay loam	CL, CH	A-7	0	0-2	100	90-100	80-95	60-75	45-55	25-35
	43-60	Very cobbly clay loam, very cobbly sandy clay loam	GC	A-2, A-7	0-15	15-30	50-70	45-65	40-60	30-50	45-55	25-35

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
					Pct	Pct					Pct	
Pickup-----	In											
	0-8	Very stony loam	GC, GC-GM	A-2	15-25	10-20	55-65	40-55	30-45	20-35	25-35	5-15
	8-34	Very gravelly clay	GC	A-2, A-7	0-5	10-25	50-65	35-50	30-50	25-45	45-60	20-30
	34-44	Bedrock			---	---	---	---	---	---	---	---
596:												
Wylo-----	0-4	Very stony loam	GC-GM, GM, SC, SM	A-2, A-4	5-25	0-15	60-85	50-80	40-60	30-50	25-35	5-10
	4-15	Gravelly clay, gravelly clay loam, cobbly clay	GC, SC	A-7	0-5	10-30	60-90	55-85	50-70	35-50	40-50	15-25
	15-25	Bedrock			---	---	---	---	---	---	---	---
Pickup-----	0-8	Very stony loam	GC, GC-GM	A-2	15-25	10-20	55-65	40-55	30-45	20-35	25-35	5-15
	8-34	Very gravelly clay	GC	A-2, A-7	0-5	10-25	50-65	35-50	30-50	25-45	45-60	20-30
	34-44	Bedrock			---	---	---	---	---	---	---	---
Bucklake-----	0-9	Very stony loam	CL, CL-ML, SC, SC-SM	A-4	25-50	10-35	70-85	65-80	55-70	40-55	25-35	5-15
	9-13	Gravelly clay loam	CL, GC	A-6	0	0-10	55-75	50-70	45-65	40-55	30-40	10-20
	13-24	Gravelly clay, gravelly clay loam	CH, CL, GC	A-7	0	0-10	55-75	50-70	45-65	40-60	40-60	20-35
	24-34	Bedrock			---	---	---	---	---	---	---	---
597:												
Wylo-----	0-4	Very stony loam	GC-GM, GM, SC, SM	A-2, A-4	5-25	0-15	60-85	50-80	40-60	30-50	25-35	5-10
	4-15	Gravelly clay, gravelly clay loam, cobbly clay	GC, SC	A-7	0-5	10-30	60-90	55-85	50-70	35-50	40-50	15-25
	15-25	Bedrock			---	---	---	---	---	---	---	---
Pickup-----	0-8	Very stony loam	GC, GC-GM	A-2	15-25	10-20	55-65	40-55	30-45	20-35	25-35	5-15
	8-34	Very gravelly clay	GC	A-2, A-7	0-5	10-25	50-65	35-50	30-50	25-45	45-60	20-30
	34-44	Bedrock			---	---	---	---	---	---	---	---
Ceejay-----	0-2	Very stony loam	GC-GM, GM, SC, SM	A-4	5-25	10-20	60-85	50-80	40-60	30-50	25-35	5-10
	2-16	Gravelly clay loam, gravelly clay, cobbly clay loam	GC, SC	A-7	0-5	10-25	65-90	60-85	50-70	35-50	40-50	15-25
	16-26	Bedrock			---	---	---	---	---	---	---	---
598:												
Wylo-----	0-4	Extremely stony loam	GC	A-2	25-35	0-10	35-50	25-40	20-30	15-20	20-30	5-10
	4-15	Gravelly clay, gravelly clay loam, cobbly clay	GC, SC	A-7	0-5	10-30	60-90	55-85	50-70	35-50	40-50	15-25
	15-25	Bedrock			---	---	---	---	---	---	---	---
Rock outcrop----	---	---	---	---	---	---	---	---	---	---	---	
600:												
Zorravista-----	0-4	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	75-90	5-20	---	NP
	4-60	Fine sand, sand, loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	65-80	5-30	---	NP
601:												
Zorravista-----	0-4	Fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	75-90	5-20	---	NP
	4-60	Fine sand, sand, loamy fine sand	SM, SP-SM	A-2, A-3	0	0	100	100	65-80	5-30	---	NP

TABLE 13.--Engineering Properties

Map symbol and soil name	Depth	USDA texture	Classification		Fragments		Percentage passing sieve number--				Liquid limit	Plasticity index
			Unified	AASHTO	>10	3-10	4	10	40	200		
					inches	inches						
				Pct	Pct					Pct		
Davey-----	In											
	0-4	Loamy fine sand	SM	A-2	0	0	100	100	80-95	25-35	---	NP
	4-16	Fine sandy loam, sandy loam	SM	A-2	0	0	100	100	80-90	30-40	20-25	NP-5
	16-60	Fine sand, loamy fine sand	SM	A-2	0	0	85-100	85-100	70-80	10-20	---	NP
Isolde-----	0-7	Fine sand	SP-SM, SP	A-3	0	0	100	100	75-90	0-10	---	NP
	7-60	Fine sand, sand	SP, SP-SM	A-3	0	0	100	100	50-80	0-10	---	NP
602: Zorromount-----	0-1	Gravelly ashly mucky fine sandy loam	SM	A-2, A-1	0-1	0-2	60-80	50-75	35-60	20-30	25-30	NP-5
	1-11	Very gravelly ashly sandy loam	GM	A-1	0-1	0-10	35-55	25-50	20-40	10-20	25-30	NP-5
	11-31	Extremely gravelly ashly fine sandy loam, extremely gravelly ashly sandy loam	GM, GW-GM	A-1	0-1	10-25	15-50	10-40	10-30	5-15	25-30	NP-5
	31-60	Extremely gravelly ashly sandy loam, extremely gravelly ashly fine sandy loam	GM, GW-GM	A-1	0-1	25-45	15-55	10-45	10-35	5-15	25-30	NP-5
Hutchley-----	0-6	Very cobbly sandy loam	SM	A-1, A-2	0	30-40	60-70	50-70	35-60	20-35	15-25	NP-5
	6-14	Very gravelly clay loam, extremely gravelly loam, very cobbly clay loam	GC, SC	A-2, A-6	0-5	10-40	45-70	35-55	15-55	10-40	30-40	10-15
	14-24	Bedrock			---	---	---	---	---	---	---	---
Zorromount, snowpocket-----	0-1	Very gravelly ashly sandy loam	SM, GM	A-1	0-1	0-2	40-65	25-50	20-40	10-15	25-30	NP-5
	1-11	Very gravelly ashly sandy loam	GM	A-1	0-1	0-10	35-55	25-50	20-40	10-20	25-30	NP-5
	11-31	Extremely gravelly ashly fine sandy loam, extremely gravelly ashly sandy loam	GM, GW-GM	A-1	0-1	10-25	15-50	10-40	10-30	5-15	25-30	NP-5
	31-60	Extremely gravelly ashly sandy loam, extremely gravelly ashly fine sandy loam	GM, GW-GM	A-1	0-1	25-45	15-55	10-45	10-35	5-15	25-30	NP-5

TABLE 14.--Physical Soil Properties

(Entries under "Erosion factors--T" apply to the entire profile. Entries under "Wind erodibility group" and "Wind erodibility index" apply only to the surface layer. Absence of an entry indicates that data were not estimated.)

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
300: Anawalt-----	0-4	20-27	1.20-1.30	4.23-14.11	0.07-0.11	0.0-2.9	1.0-2.0	.15	.32	1	8	0
	4-16	35-60	1.20-1.30	0.42-1.41	0.10-0.18	6.0-8.9	0.5-1.0	.20	.37			
	16-20	---	---	0.00-0.01	---	---	---	---	---			
Ninemile-----	0-2	15-25	1.35-1.50	4.23-14.11	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	2-11	40-60	1.25-1.45	0.02-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	11-18	40-60	1.25-1.45	0.02-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
301: Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
Ashdos-----	0-2	5-10	1.15-1.35	14.00-42.00	0.13-0.15	0.0-2.9	1.0-3.0	.10	.28	3	5	56
	2-12	10-15	1.15-1.35	4.00-14.00	0.14-0.16	0.0-2.9	1.0-3.0	.17	.28			
	12-24	18-25	1.10-1.30	1.40-4.00	0.15-0.17	3.0-5.9	0.5-2.0	.17	.32			
	24-60	---	---	0.00-1.40	---	---	---	---	---			
302: Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
Ashdos-----	0-2	5-10	1.15-1.35	14.00-42.00	0.13-0.15	0.0-2.9	1.0-3.0	.10	.28	3	5	56
	2-12	10-15	1.15-1.35	4.00-14.00	0.14-0.16	0.0-2.9	1.0-3.0	.17	.28			
	12-24	18-25	1.10-1.30	1.40-4.00	0.15-0.17	3.0-5.9	0.5-2.0	.17	.32			
	24-60	---	---	0.00-1.40	---	---	---	---	---			
Tusune-----	0-2	10-15	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	2.0-3.0	.32	.37	3	5	56
	2-10	15-20	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	1.0-2.0	.32	.37			
	10-38	25-30	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	38-48	---	---	0.00-1.40	---	---	---	---	---			
303: Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
Bitner-----	0-7	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	3	5	56
	7-13	12-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	1.0-2.0	.20	.32			
	13-27	12-18	1.10-1.20	14.00-42.00	0.13-0.16	0.0-2.9	0.5-1.0	.20	.32			
	27-37	---	---	0.00-1.40	---	---	---	---	---			
304: Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
Crocac-----	0-3	12-18	1.10-1.20	4.00-14.00	0.16-0.18	0.0-2.9	5.0-10	.10	.17	1	8	0
	3-5	33-40	1.15-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.32	.37			
	5-14	55-65	1.30-1.40	0.01-0.42	0.12-0.14	6.0-8.9	1.0-2.0	.20	.24			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
305: Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Nutzan-----	0-10	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	3	5	56
	10-17	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.24	.32			
	17-28	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.10	.32			
	28-36	10-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.05	.24			
	36-46	---	---	0.00-1.40	---	---	---	---	---			
Ashdos-----	0-2	5-10	1.15-1.35	14.00-42.00	0.13-0.15	0.0-2.9	1.0-3.0	.10	.28	3	5	56
	2-12	10-15	1.15-1.35	4.00-14.00	0.14-0.16	0.0-2.9	1.0-3.0	.17	.28			
	12-24	18-25	1.10-1.30	1.40-4.00	0.15-0.17	3.0-5.9	0.5-2.0	.17	.32			
	24-60	---	---	0.00-1.40	---	---	---	---	---			
306: Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
Nutzan-----	0-10	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	3	5	56
	10-17	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.24	.32			
	17-28	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.10	.32			
	28-36	10-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.05	.24			
	36-46	---	---	0.00-1.40	---	---	---	---	---			
Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
307: Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
Tusune-----	0-2	10-15	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	2.0-3.0	.32	.37	3	5	56
	2-10	15-20	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	1.0-2.0	.32	.37			
	10-38	25-30	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	38-48	---	---	0.00-1.40	---	---	---	---	---			
Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
308: Bicondoa-----	0-11	40-60	1.20-1.25	0.42-1.40	0.15-0.17	6.0-8.9	1.0-5.0	.24	.24	5	4	86
	11-62	40-50	1.25-1.30	0.42-1.40	0.12-0.16	6.0-8.9	0.5-1.0	.28	.28			
309: Bicondoa-----	0-11	40-60	1.20-1.25	0.42-1.40	0.15-0.17	6.0-8.9	1.0-5.0	.24	.24	5	4	86
	11-62	40-50	1.25-1.30	0.42-1.40	0.12-0.16	6.0-8.9	0.5-1.0	.28	.28			
Crutcher-----	0-5	10-15	1.30-1.35	14.00-42.00	0.15-0.18	0.0-2.9	0.5-1.0	.55	.55	5	2	134
	5-15	12-18	1.35-1.40	14.00-42.00	0.18-0.20	0.0-2.9	0.1-0.5	.55	.55			
	15-22	18-27	1.35-1.40	14.00-42.00	0.18-0.20	3.0-5.9	0.0-0.2	.49	.49			
	22-43	18-27	1.35-1.40	14.00-42.00	0.16-0.18	3.0-5.9	0.0-0.2	.49	.49			
	43-74	25-35	1.35-1.40	14.00-42.00	0.19-0.21	3.0-5.9	0.0-0.2	.49	.49			
310: Bidwell-----	0-4	15-27	1.40-1.50	4.00-14.00	0.20-0.22	0.0-2.9	1.0-3.0	.32	.37	5	5	56
	4-32	18-35	1.35-1.50	1.40-4.00	0.21-0.24	3.0-5.9	1.0-3.0	.37	.37			
	32-73	15-27	1.50-1.60	4.00-14.00	0.14-0.16	0.0-2.9	0.5-1.0	.28	.37			
311: Bidwell-----	0-4	15-27	1.40-1.50	4.00-14.00	0.20-0.22	0.0-2.9	1.0-3.0	.32	.37	5	5	56
	4-32	18-35	1.35-1.50	1.40-4.00	0.21-0.24	3.0-5.9	1.0-3.0	.37	.37			
	32-73	15-27	1.50-1.60	4.00-14.00	0.14-0.16	0.0-2.9	0.5-1.0	.28	.37			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
312: Bitner-----	0-7	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	3	5	56
	7-13	12-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	1.0-2.0	.20	.32			
	13-27	12-18	1.10-1.20	14.00-42.00	0.13-0.16	0.0-2.9	0.5-1.0	.20	.32			
	27-37	---	---	0.00-1.40	---	---	---	---	---			
Ashcamp-----	0-3	8-15	1.10-1.15	14.00-42.00	0.14-0.16	0.0-2.9	1.0-2.0	.20	.28	2	2	134
	3-7	12-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	1.0-2.0	.24	.32			
	7-23	---	---	0.00-1.40	---	---	---	---	---			
313: Bombadil-----	0-2	12-20	1.35-1.50	4.00-14.00	0.11-0.14	0.0-2.9	1.0-2.0	.28	.55	1	6	48
	2-6	18-27	1.25-1.45	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.49			
	6-10	25-35	1.25-1.45	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.28	.43			
	10-24	---	---	0.00-0.42	---	---	---	---	---			
Brubeck-----	0-3	40-60	1.10-1.25	0.42-1.40	0.07-0.10	6.0-8.9	1.0-2.0	.15	.37	2	6	48
	3-23	40-60	1.15-1.30	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	23-29	40-60	1.15-1.30	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	29-39	---	---	0.00-0.42	---	---	---	---	---			
314: Bombadil-----	0-3	10-15	1.35-1.50	4.00-14.00	0.11-0.14	0.0-2.9	1.0-2.0	.32	.43	1	6	48
	3-6	18-27	1.25-1.45	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.49			
	6-14	25-35	1.25-1.45	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.28	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Ceejay-----	0-6	15-25	1.20-1.35	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.17	.32	1	7	38
	6-15	35-45	1.15-1.30	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.15	.28			
	15-26	---	---	0.00-0.42	---	---	---	---	---			
315: Bombadil-----	0-3	10-15	1.35-1.50	4.00-14.00	0.11-0.14	0.0-2.9	1.0-2.0	.32	.43	1	6	48
	3-6	18-27	1.25-1.45	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.49			
	6-14	25-35	1.25-1.45	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.28	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Chime-----	0-7	18-25	1.15-1.30	4.00-14.00	0.11-0.16	3.0-5.9	1.0-2.0	.24	.43	3	7	38
	7-16	27-35	1.40-1.60	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.24	.32			
	16-25	20-35	1.40-1.60	1.40-4.00	0.13-0.16	3.0-5.9	0.0-0.5	.24	.32			
	25-35	---	---	0.00-1.40	---	---	---	---	---			
316: Bombadil-----	0-2	10-18	1.35-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-1.5	.24	.37	1	5	56
	2-6	18-27	1.25-1.45	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.49			
	6-10	25-35	1.25-1.45	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.28	.43			
	10-24	---	---	0.00-0.42	---	---	---	---	---			
Grassycan-----	0-4	10-18	1.25-1.45	4.00-14.00	0.03-0.06	0.0-2.9	1.0-3.0	.05	.28	1	8	0
	4-12	35-50	1.20-1.30	0.01-0.42	0.14-0.16	6.0-8.9	0.0-1.0	.24	.24			
	12-13	---	---	0.00-1.40	---	---	---	---	---			
	13-23	---	---	0.00-0.42	---	---	---	---	---			
317: Bombadil-----	0-2	12-20	1.35-1.50	4.00-14.00	0.11-0.14	0.0-2.9	1.0-2.0	.28	.55	1	6	48
	2-6	18-27	1.25-1.45	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.49			
	6-10	25-35	1.25-1.45	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.28	.43			
	10-24	---	---	0.00-0.42	---	---	---	---	---			
Saraph-----	0-4	10-15	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	1.0-3.0	.32	.37	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
318: Boulder Lake-----	0-2	40-60	1.20-1.30	0.01-0.42	0.14-0.15	6.0-8.9	1.0-2.0	.20	.20	5	4	86
	2-60	40-60	1.20-1.40	0.01-0.42	0.14-0.15	6.0-8.9	0.5-1.0	.20	.20			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
319: Boulderfan-----	0-10	8-15	1.10-1.15	4.00-14.00	0.20-0.22	3.0-5.9	2.0-4.0	.28	.32	5	5	56
	10-26	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	26-35	20-27	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	0.5-0.6	.24	.32			
	35-60	27-35	1.20-1.30	4.00-14.00	0.21-0.22	3.0-5.9	0.0-0.5	.24	.32			
320: Bregar-----	0-2	15-25	1.15-1.25	4.00-14.00	0.11-0.13	0.0-2.9	1.0-3.0	.02	.43	1	8	0
	2-12	25-35	1.40-1.45	1.40-4.00	0.09-0.14	0.0-2.9	0.5-1.0	.10	.55			
	12-22	---	---	0.00-0.01	---	---	---	---	---			
321: Bregar-----	0-2	15-25	1.15-1.25	4.00-14.00	0.11-0.13	0.0-2.9	1.0-3.0	.02	.43	1	8	0
	2-12	25-35	1.40-1.45	1.40-4.00	0.09-0.14	0.0-2.9	0.5-1.0	.10	.55			
	12-22	---	---	0.00-0.01	---	---	---	---	---			
Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
322: Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
Cowbell-----	0-3	8-15	1.50-1.65	14.00-42.00	0.10-0.12	---	10-16	.05	.24	4	8	0
	3-9	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	9-40	18-25	1.35-1.50	4.00-14.00	0.14-0.16	0.0-2.9	0.5-2.0	.10	.24			
	40-60	20-25	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-1.0	.20	.37			
323: Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
Hashwoods-----	0-15	5-15	1.05-1.10	14.00-42.00	0.13-0.15	0.0-2.9	3.0-5.0	.32	.28	4	2	134
	15-31	5-15	1.07-1.10	14.00-42.00	0.10-0.13	0.0-2.9	2.0-4.0	.32	.10			
	31-48	12-18	1.10-1.20	14.00-42.00	0.10-0.12	0.0-2.9	1.0-3.0	.32	.15			
	48-59	---	---	0.00-0.01	---	---	---	---	---			
324: Brubeck-----	0-3	40-60	1.10-1.25	0.42-1.40	0.07-0.10	6.0-8.9	1.0-2.0	.15	.37	2	6	48
	3-23	40-60	1.15-1.30	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	23-29	40-60	1.15-1.30	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	29-39	---	---	0.00-0.42	---	---	---	---	---			
Diaz-----	0-3	18-27	1.35-1.50	4.23-14.11	0.08-0.10	0.0-2.9	1.0-2.0	.17	.55	2	8	0
	3-7	27-35	1.30-1.45	1.41-4.23	0.17-0.19	3.0-5.9	0.5-1.0	.37	.55			
	7-25	40-60	1.25-1.40	0.42-1.41	0.14-0.16	6.0-8.9	0.5-1.0	.24	.37			
	25-32	---	---	0.00-0.42	---	---	---	---	---			
325: Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Bombadil-----	0-2	10-15	1.35-1.50	4.00-14.00	0.11-0.14	0.0-2.9	1.0-2.0	.32	.43	1	6	48
	2-6	18-27	1.25-1.45	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.49			
	6-10	25-35	1.25-1.45	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.28	.43			
	10-24	---	---	0.00-0.42	---	---	---	---	---			
Reywat-----	0-6	8-18	1.35-1.55	4.00-14.00	0.08-0.12	0.0-2.9	1.0-3.0	.15	.32	1	7	38
	6-18	24-35	1.35-1.55	1.40-4.00	0.10-0.14	3.0-5.9	0.0-1.0	.15	.32			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
326: Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
Fiddler-----	0-7	15-27	1.10-1.30	4.00-14.00	0.07-0.09	3.0-5.9	1.0-3.0	.24	.43	2	8	0
	7-28	35-50	1.30-1.50	0.42-1.40	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	28-38	---	---	0.00-0.42	---	---	---	---	---			
327: Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
Mcwatt-----	0-10	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	3	6	48
	10-20	8-15	1.15-1.35	14.00-42.00	0.06-0.08	0.0-2.9	0.0-1.0	.05	.37			
	20-44	0-5	1.30-1.40	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.02	.15			
	44-54	---	---	0.00-0.42	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0
328: Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
Reywat-----	0-6	8-18	1.35-1.55	4.00-14.00	0.08-0.12	0.0-2.9	1.0-3.0	.15	.32	1	7	38
	6-18	24-35	1.35-1.55	1.40-4.00	0.10-0.14	3.0-5.9	0.0-1.0	.15	.32			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
329: Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
Corral-----	0-7	15-25	1.35-1.50	4.00-14.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.37	2	6	48
	7-16	20-35	1.35-1.50	1.40-4.00	0.06-0.09	3.0-5.9	0.0-0.5	.32	.37			
	16-26	---	---	0.01-0.42	---	---	---	---	---			
330: Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
331: Buffaran-----	0-2	10-20	1.25-1.45	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	2-16	35-50	1.15-1.30	0.42-1.40	0.12-0.15	6.0-8.9	0.0-1.0	.24	.32			
	16-27	---	---	0.00-0.42	---	---	---	---	---			
	27-60	---	---	0.00-1.40	---	---	---	---	---			
Fulstone-----	0-4	10-20	1.25-1.45	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	4-16	45-60	1.20-1.35	0.42-1.40	0.12-0.16	6.0-8.9	0.0-1.0	.17	.37			
	16-26	---	---	0.00-0.42	---	---	---	---	---			
	26-60	5-15	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			
332: Bullump-----	0-11	15-25	1.20-1.30	4.00-14.00	0.08-0.11	0.0-2.9	2.0-6.0	.17	.43	5	7	38
	11-42	25-35	1.35-1.45	1.40-4.00	0.09-0.14	0.0-2.9	0.5-2.0	.17	.43			
	42-60	20-27	1.35-1.45	4.00-14.00	0.05-0.09	0.0-2.9	0.5-1.0	.15	.43			
333: Buntingville-----	0-4	20-27	1.35-1.45	4.00-14.00	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	4-24	20-35	1.30-1.40	1.40-4.00	0.22-0.24	3.0-5.9	1.0-2.0	.28	.28			
	24-32	20-35	1.30-1.40	1.40-4.00	0.22-0.24	3.0-5.9	1.0-2.0	.32	.32			
	32-63	25-35	1.35-1.50	1.40-4.00	0.20-0.24	3.0-5.9	0.5-1.0	.37	.37			
334: Buntingville-----	0-4	20-27	1.35-1.45	4.00-14.00	0.20-0.22	0.0-2.9	1.0-3.0	.32	.32	5	5	56
	4-24	20-35	1.30-1.40	1.40-4.00	0.22-0.24	3.0-5.9	1.0-2.0	.28	.28			
	24-32	20-35	1.30-1.40	1.40-4.00	0.22-0.24	3.0-5.9	1.0-2.0	.32	.32			
	32-63	25-35	1.35-1.50	1.40-4.00	0.20-0.24	3.0-5.9	0.5-1.0	.37	.37			
335: Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
336: Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Cowbell-----	0-3	8-15	1.50-1.65	14.00-42.00	0.10-0.12	---	10-16	.05	.24	4	8	0
	3-9	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	9-40	18-25	1.35-1.50	4.00-14.00	0.14-0.16	0.0-2.9	0.5-2.0	.10	.24			
	40-60	20-25	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-1.0	.20	.37			
Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0
337: Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
338: Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Nutzan-----	0-10	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	3	5	56
	10-17	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.24	.32			
	17-28	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.10	.32			
	28-36	10-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.05	.24			
	36-46	---	---	0.00-1.40	---	---	---	---	---			
Snag-----	0-4	8-15	1.05-1.08	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.10	.43	3	6	48
	4-30	8-15	1.08-1.12	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.10	.32			
	30-62	18-24	1.12-1.15	4.00-14.00	0.06-0.10	0.0-2.9	0.5-1.0	.10	.24			
339: Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Nutzan-----	0-10	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	3	5	56
	10-17	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.24	.32			
	17-28	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.10	.32			
	28-36	10-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.05	.24			
	36-46	---	---	0.00-1.40	---	---	---	---	---			
Tusune-----	0-2	10-15	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	2.0-3.0	.32	.37	3	5	56
	2-10	15-20	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	1.0-2.0	.32	.37			
	10-38	25-30	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	38-48	---	---	0.00-1.40	---	---	---	---	---			
340: Chalco-----	0-3	27-35	1.15-1.30	1.40-4.00	0.08-0.09	0.0-2.9	1.0-2.0	.10	.32	2	8	0
	3-15	40-60	1.25-1.45	0.01-0.42	0.12-0.15	6.0-8.9	0.0-0.5	.24	.28			
	15-30	---	---	0.00-1.40	---	---	---	---	---			
Chalco-----	0-3	10-15	1.20-1.35	4.00-14.00	0.08-0.09	0.0-2.9	1.0-2.0	.10	.37	2	7	38
	3-15	40-60	1.25-1.45	0.01-0.42	0.12-0.15	6.0-8.9	0.0-0.5	.24	.28			
	15-30	---	---	0.00-1.40	---	---	---	---	---			
Pickup-----	0-8	18-25	1.15-1.35	1.40-4.00	0.08-0.12	0.0-2.9	1.0-2.0	.28	.43	2	8	0
	8-34	40-55	1.20-1.35	0.42-1.40	0.10-0.13	3.0-5.9	0.5-1.0	.10	.32			
	34-44	---	---	0.00-0.42	---	---	---	---	---			
341: Chalco-----	0-3	10-15	1.20-1.35	4.00-14.00	0.08-0.09	0.0-2.9	1.0-2.0	.10	.37	2	7	38
	3-15	40-60	1.25-1.45	0.01-0.42	0.12-0.15	6.0-8.9	0.0-0.5	.24	.28			
	15-30	---	---	0.00-1.40	---	---	---	---	---			
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
Pickup-----	0-8	18-25	1.15-1.35	1.40-4.00	0.08-0.12	0.0-2.9	1.0-2.0	.28	.43	2	8	0
	8-34	40-55	1.20-1.35	0.42-1.40	0.10-0.13	3.0-5.9	0.5-1.0	.10	.32			
	34-44	---	---	0.00-0.42	---	---	---	---	---			
342: Chalco-----	0-3	10-15	1.20-1.35	4.00-14.00	0.08-0.09	0.0-2.9	1.0-2.0	.10	.37	2	7	38
	3-15	40-60	1.25-1.45	0.01-0.42	0.12-0.15	6.0-8.9	0.0-0.5	.24	.28			
	15-30	---	---	0.00-1.40	---	---	---	---	---			
Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Tuffo-----	0-1	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.15	.32	1	5	56
	1-8	5-15	1.35-1.55	14.00-42.00	0.13-0.16	0.0-2.9	0.0-1.0	.24	.37			
	8-30	---	---	0.01-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
343: Chalco-----	0-3	10-15	1.20-1.35	4.00-14.00	0.08-0.09	0.0-2.9	1.0-2.0	.10	.37	2	7	38
	3-15	40-60	1.25-1.45	0.01-0.42	0.12-0.15	6.0-8.9	0.0-0.5	.24	.28			
	15-30	---	---	0.00-1.40	---	---	---	---	---			
Verdico-----	0-3	8-18	1.35-1.50	14.00-42.00	0.08-0.13	0.0-2.9	0.8-2.0	.28	.32	3	5	56
	3-17	45-60	1.25-1.40	0.01-0.42	0.13-0.18	6.0-8.9	0.5-1.0	.28	.32			
	17-22	45-60	1.25-1.40	0.01-0.42	0.13-0.18	6.0-8.9	0.0-0.5	.24	.37			
	22-32	---	---	0.00-1.40	---	---	---	---	---			
Skedaddle-----	0-2	12-18	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	1	5	56
	2-10	18-32	1.35-1.50	14.00-42.00	0.07-0.12	0.0-2.9	0.4-1.0	.15	.37			
	10-20	---	---	0.00-0.42	---	---	---	---	---			
344: Coppersmith-----	0-5	8-15	1.10-1.15	14.00-42.00	0.14-0.16	0.0-2.9	1.0-2.0	.20	.28	5	2	134
	5-16	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	16-39	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	39-60	3-7	1.55-1.65	42.00-141.00	0.07-0.11	0.0-2.9	0.0-0.5	.10	.15			
Bareranch-----	0-9	8-15	1.30-1.45	14.00-42.00	0.05-0.09	0.0-2.9	1.0-2.0	.05	.24	4	6	48
	9-29	16-23	1.35-1.50	4.00-14.00	0.06-0.10	0.0-2.9	0.5-1.0	.10	.24			
	29-42	8-12	1.50-1.65	14.00-42.00	0.05-0.08	0.0-2.9	0.0-0.5	.05	.24			
	42-60	---	---	0.00-1.40	---	---	---	---	---			
345: Cormol-----	0-3	15-20	1.30-1.40	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.5	.15	.37	2	6	48
	3-7	15-20	1.30-1.40	4.00-14.00	0.15-0.17	0.0-2.9	1.0-2.5	.28	.37			
	7-11	20-30	1.35-1.40	4.00-14.00	0.13-0.17	3.0-5.9	1.0-2.0	.32	.43			
	11-18	20-30	1.40-1.48	1.40-4.00	0.14-0.17	3.0-5.9	0.3-0.8	.32	.43			
	18-34	---	---	0.00-1.40	---	---	---	---	---			
Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
Devada-----	0-6	15-27	1.10-1.30	4.00-14.00	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	6-17	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	17-27	---	---	0.00-0.42	---	---	---	---	---			
346: Couch-----	0-1	15-20	1.25-1.45	4.00-42.00	0.18-0.20	0.0-2.9	1.0-2.0	.32	.32	2	2	134
	1-6	35-60	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	6-13	35-60	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	13-22	35-40	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	22-60	15-25	1.35-1.55	1.40-4.00	0.16-0.18	0.0-2.9	0.0-0.5	.32	.24			
347: Couch-----	0-1	15-25	1.25-1.45	4.00-14.00	0.13-0.16	0.0-2.9	1.0-2.0	.37	.37	2	2	134
	1-22	35-60	1.25-1.45	0.42-1.40	0.05-0.08	6.0-8.9	0.5-1.0	.32	.32			
	22-60	15-25	1.35-1.55	1.40-4.00	0.16-0.18	0.0-2.9	0.0-0.5	.32	.24			
348: Couch-----	0-1	15-25	1.25-1.45	4.00-14.00	0.13-0.16	0.0-2.9	1.0-2.0	.37	.37	4	2	134
	1-22	35-60	1.25-1.45	0.42-1.40	0.05-0.08	6.0-8.9	0.5-1.0	.32	.32			
	22-40	15-25	1.35-1.55	1.40-4.00	0.16-0.18	0.0-2.9	0.0-0.5	.32	.24			
	40-60	40-60	1.45-1.60	0.01-0.42	0.05-0.08	6.0-8.9	0.0-0.5	.32	.32			
349: Couch-----	0-1	12-25	1.25-1.30	4.00-14.00	0.24-0.26	0.0-2.9	1.0-3.0	.43	.43	2	4	86
	1-6	35-60	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	6-13	35-60	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	13-22	35-40	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	22-60	15-25	1.35-1.55	1.40-4.00	0.16-0.18	0.0-2.9	0.0-0.5	.32	.24			
Jesayno-----	0-12	12-25	1.25-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	5	4	86
	12-24	12-25	1.45-1.50	4.00-14.00	0.17-0.18	0.0-2.9	0.5-1.0	.43	.43			
	24-41	18-27	1.35-1.45	1.40-4.00	0.17-0.18	3.0-5.9	0.0-0.5	.43	.43			
	41-60	18-27	1.35-1.45	1.40-4.00	0.17-0.18	3.0-5.9	0.0-0.5	.43	.43			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
350: Couch-----	0-1	15-20	1.25-1.45	4.00-42.00	0.18-0.20	0.0-2.9	1.0-2.0	.32	.32	2	2	134
	1-6	35-60	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	6-13	35-60	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	13-22	35-40	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	22-60	15-25	1.35-1.55	1.40-4.00	0.16-0.18	0.0-2.9	0.0-0.5	.32	.24			
Nevadash-----	0-2	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.32	5	5	56
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
351: Cowbell-----	0-3	8-15	1.50-1.65	14.00-42.00	0.10-0.12	---	10-16	.05	.24	4	8	0
	3-9	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	9-40	18-25	1.35-1.50	4.00-14.00	0.14-0.16	0.0-2.9	0.5-2.0	.10	.24			
	40-60	20-25	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-1.0	.20	.37			
Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
352: Crazybird-----	0-3	8-16	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	2.0-4.0	.10	.24	1	5	56
	3-15	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	15-25	---	---	0.00-1.40	---	---	---	---	---			
Warnermount, warm----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	2-10	18-27	1.35-1.50	4.23-14.11	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37			
	10-33	22-35	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	33-43	---	---	0.00-0.42	---	---	---	---	---			
Crazybird-----	0-3	8-16	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	2.0-4.0	.10	.24	1	5	56
	3-15	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	15-25	---	---	0.00-1.40	---	---	---	---	---			
353: Crazybird-----	0-3	8-16	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	2.0-4.0	.10	.24	1	5	56
	3-15	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	15-25	---	---	0.00-1.40	---	---	---	---	---			
Welltomas-----	0-2	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-2.0	.10	.24	1	6	48
	2-7	18-30	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	7-17	---	---	0.00-0.42	---	---	---	---	---			
354: Crutcher-----	0-5	10-15	1.30-1.35	14.00-42.00	0.15-0.18	0.0-2.9	0.5-1.0	.55	.55	5	2	134
	5-15	12-18	1.35-1.40	14.00-42.00	0.18-0.20	0.0-2.9	0.1-0.5	.55	.55			
	15-22	18-27	1.35-1.40	14.00-42.00	0.18-0.20	3.0-5.9	0.0-0.2	.49	.49			
	22-43	18-27	1.35-1.40	14.00-42.00	0.16-0.18	3.0-5.9	0.0-0.2	.49	.49			
	43-74	25-35	1.35-1.40	14.00-42.00	0.19-0.21	3.0-5.9	0.0-0.2	.49	.49			
355: Crutcher-----	0-5	10-15	1.30-1.35	14.00-42.00	0.15-0.18	0.0-2.9	0.5-1.0	.55	.55	5	2	134
	5-15	12-18	1.35-1.40	14.00-42.00	0.18-0.20	0.0-2.9	0.1-0.5	.55	.55			
	15-22	18-27	1.35-1.40	14.00-42.00	0.18-0.20	3.0-5.9	0.0-0.2	.49	.49			
	22-43	18-27	1.35-1.40	14.00-42.00	0.16-0.18	3.0-5.9	0.0-0.2	.49	.49			
	43-74	25-35	1.35-1.40	14.00-42.00	0.19-0.21	3.0-5.9	0.0-0.2	.49	.49			
Isolde-----	0-7	0-5	1.40-1.60	141.00- 705.00	0.06-0.09	0.0-2.9	0.0-0.5	.17	.17	5	1	250
	7-60	0-5	1.50-1.70	141.00- 705.00	0.06-0.09	0.0-2.9	0.0-0.5	.17	.17			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
356: Cuminvar-----	0-8	---	0.50-0.90	42.00-141.00	0.22-0.26	---	30-50	---	---	5	5	56
	8-15	18-27	0.80-1.00	4.00-14.00	0.17-0.18	3.0-5.9	1.0-5.0	.43	.55			
	15-72	40-60	1.35-1.45	0.42-1.40	0.15-0.17	6.0-8.9	0.5-2.0	.28	.28			
357: Cuminvar-----	0-8	---	0.50-0.90	42.00-141.00	0.22-0.26	---	30-50	---	---	5	5	56
	8-15	18-27	0.80-1.00	4.00-14.00	0.17-0.18	3.0-5.9	1.0-5.0	.43	.55			
	15-72	40-60	1.35-1.45	0.42-1.40	0.15-0.17	6.0-8.9	0.5-2.0	.28	.28			
358: Cummings-----	0-6	27-35	1.30-1.35	1.40-4.00	0.17-0.19	3.0-5.9	6.0-8.0	.32	.32	5	2	134
	6-28	25-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	5.0-7.0	.37	.37			
	28-34	25-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	6.0-10	.37	.37			
	34-44	25-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	2.0-5.0	.37	.37			
	44-63	25-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	0.5-1.0	.37	.37			
359: Cummings-----	0-6	27-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	10-14	.37	.37	5	2	134
	6-28	25-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	5.0-9.0	.37	.37			
	28-34	25-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	6.0-10	.37	.37			
	34-44	25-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	2.0-5.0	.37	.37			
	44-63	25-35	0.90-1.00	1.40-4.00	0.17-0.18	3.0-5.9	0.5-1.0	.37	.37			
360: Dangvar-----	0-4	20-27	1.35-1.45	4.00-14.00	0.09-0.13	3.0-5.9	0.5-1.0	.43	.43	1	2	134
	4-17	40-60	1.25-1.35	0.01-0.42	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	17-20	---	---	0.00-0.42	---	---	---	---	---			
	20-35	20-27	1.35-1.45	0.42-1.40	0.10-0.13	3.0-5.9	0.0-0.0	.37	.37			
	35-54	27-35	1.30-1.40	0.42-1.40	0.10-0.14	3.0-5.9	0.0-0.0	.37	.37			
361: Dangvar-----	0-4	20-27	1.35-1.45	4.00-14.00	0.09-0.13	3.0-5.9	0.5-1.0	.43	.43	1	2	134
	4-17	40-60	1.25-1.35	0.01-0.42	0.08-0.12	6.0-8.9	0.0-0.5	.32	.32			
	17-20	---	---	0.00-0.42	---	---	---	---	---			
	20-35	20-35	1.35-1.45	0.42-1.40	0.10-0.13	3.0-5.9	0.0-0.0	.37	.37			
	35-60	27-35	1.30-1.40	0.42-1.40	0.10-0.14	3.0-5.9	0.0-0.0	.37	.37			
362: Davey-----	0-5	5-10	1.40-1.60	14.00-42.00	0.11-0.15	0.0-2.9	0.8-2.0	.20	.20	2	3	86
	5-14	10-15	1.40-1.60	14.00-42.00	0.13-0.17	0.0-2.9	0.5-2.0	.28	.28			
	14-67	2-8	1.50-1.65	42.00-141.00	0.05-0.10	0.0-2.9	0.0-0.5	.17	.20			
363: Dawgbuffer-----	0-4	8-16	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	2.0-4.0	.10	.24	1	5	56
	4-13	18-30	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	13-23	---	---	0.00-1.40	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
364: Devada-----	0-6	15-27	1.10-1.30	4.00-14.00	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	6-17	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	17-27	---	---	0.00-0.42	---	---	---	---	---			
Bieber-----	0-6	10-20	1.40-1.50	4.00-14.00	0.06-0.12	0.0-2.9	1.0-2.0	.15	.37	1	7	38
	6-10	27-45	1.40-1.50	1.40-4.00	0.14-0.20	3.0-5.9	1.0-2.0	.24	.43			
	10-16	35-45	1.35-1.45	0.01-0.42	0.11-0.14	6.0-8.9	0.0-0.5	.20	.32			
	16-31	0-0	---	0.00-0.42	---	---	---	---	---			
	31-60	5-15	1.50-1.60	0.42-1.40	0.04-0.08	0.0-2.9	0.0-0.5	.05	.24			
365: Devada-----	0-6	15-27	1.10-1.30	4.00-14.00	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	6-17	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	17-27	---	---	0.00-0.42	---	---	---	---	---			
Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
366: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
367: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Dosie-----	0-5	15-25	1.20-1.30	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.15	.49	3	8	0
	5-41	35-50	1.10-1.30	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.10	.32			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0
368: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Dosie-----	0-5	15-25	1.20-1.30	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.15	.49	3	8	0
	5-41	35-50	1.10-1.30	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.10	.32			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
369: Devada-----	0-2	15-27	1.10-1.30	4.00-14.00	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	2-12	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	12-27	---	---	0.00-0.42	---	---	---	---	---			
Hart Camp-----	0-3	10-17	1.30-1.45	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.20	.43	2	6	48
	3-13	20-35	1.35-1.50	1.40-4.00	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	13-23	---	---	0.00-1.40	---	---	---	---	---			
Tunnison-----	0-2	55-70	1.05-1.25	0.42-1.40	0.10-0.12	6.0-8.9	1.0-2.0	.10	.43	2	6	48
	2-27	60-70	1.10-1.30	0.42-1.40	0.10-0.12	6.0-8.9	0.0-0.5	.20	.20			
	27-30	---	---	0.00-1.40	---	---	---	---	---			
	30-40	---	---	0.00-0.42	---	---	---	---	---			
370: Devada-----	0-6	15-27	1.10-1.30	4.00-14.00	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	6-17	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	17-27	---	---	0.00-0.42	---	---	---	---	---			
Nitpac-----	0-8	15-25	1.15-1.25	1.40-4.00	0.15-0.17	0.0-2.9	1.0-2.0	.10	.37	3	8	0
	8-21	45-60	1.15-1.25	0.01-0.42	0.15-0.17	6.0-8.9	0.5-1.0	.28	.28			
	21-26	35-45	1.15-1.25	0.01-0.42	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	26-34	---	---	0.00-1.40	---	---	---	---	---			
	34-44	---	---	0.00-1.40	---	---	---	---	---			
Uhaldi-----	0-4	10-15	1.35-1.55	4.00-14.00	0.12-0.14	0.0-2.9	1.0-2.0	.32	.43	3	6	48
	4-22	27-35	1.35-1.55	1.40-4.00	0.16-0.17	3.0-5.9	0.5-2.0	.17	.32			
	22-46	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
371: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Reywat-----	0-6	8-18	1.35-1.55	4.00-14.00	0.08-0.12	0.0-2.9	1.0-3.0	.15	.32	1	7	38
	6-18	24-35	1.35-1.55	1.40-4.00	0.10-0.14	3.0-5.9	0.0-1.0	.15	.32			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
372: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Reywat-----	0-6	8-18	1.35-1.55	4.00-14.00	0.08-0.12	0.0-2.9	1.0-3.0	.15	.32	1	7	38
	6-18	24-35	1.35-1.55	1.40-4.00	0.10-0.14	3.0-5.9	0.0-1.0	.15	.32			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
Bitner-----	0-7	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	3	5	56
	7-13	12-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	1.0-2.0	.20	.32			
	13-27	12-18	1.10-1.20	14.00-42.00	0.13-0.16	0.0-2.9	0.5-1.0	.20	.32			
	27-37	---	---	0.00-1.40	---	---	---	---	---			
373: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Reywat-----	0-6	8-18	1.35-1.55	4.00-14.00	0.08-0.12	0.0-2.9	1.0-3.0	.15	.32	1	7	38
	6-18	24-35	1.35-1.55	1.40-4.00	0.10-0.14	3.0-5.9	0.0-1.0	.15	.32			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
374: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Reywat-----	0-6	8-18	1.35-1.55	4.00-14.00	0.08-0.12	0.0-2.9	1.0-3.0	.15	.32	1	7	38
	6-18	24-35	1.35-1.55	1.40-4.00	0.10-0.14	3.0-5.9	0.0-1.0	.15	.32			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0
375: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
376: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
377: Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Tuledad-----	0-1	23-27	1.35-1.45	4.00-14.00	0.04-0.08	0.0-2.9	1.0-2.0	.05	.37	2	8	0
	1-3	27-35	1.35-1.45	1.40-4.00	0.18-0.20	3.0-5.9	0.7-1.0	.37	.43			
	3-15	40-60	1.25-1.45	0.42-1.40	0.12-0.15	6.0-8.9	0.2-0.5	.20	.20			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
378:												
Devada-----	0-4	15-27	1.10-1.30	4.00-14.00	0.08-0.10	3.0-5.9	1.0-3.0	.17	.37	1	5	56
	4-13	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	13-27	---	---	0.00-0.42	---	---	---	---	---			
Tuledad-----	0-1	23-27	1.35-1.45	4.00-14.00	0.04-0.08	0.0-2.9	1.0-2.0	.05	.37	2	8	0
	1-3	27-35	1.35-1.45	1.40-4.00	0.18-0.20	3.0-5.9	0.7-1.0	.37	.43			
	3-15	40-60	1.25-1.45	0.42-1.40	0.12-0.15	6.0-8.9	0.2-0.5	.20	.20			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.15	.43	5	6	48
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
379:												
Dismalswamp-----	0-22	15-27	1.10-1.15	4.00-14.00	0.20-0.22	3.0-5.9	2.0-4.0	.28	.32	5	5	56
	22-31	18-27	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	1.0-3.0	.17	.32			
	31-60	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
Dismalswamp, wet-----	0-22	15-27	1.10-1.15	4.00-14.00	0.20-0.22	3.0-5.9	2.0-4.0	.28	.32	5	5	56
	22-31	18-27	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	1.0-3.0	.17	.32			
	31-60	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
380:												
Donica-----	0-13	8-18	1.25-1.45	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.17	.24	3	5	56
	13-29	8-18	1.25-1.45	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.10	.20			
	29-60	0-5	1.50-1.60	42.00-141.00	0.07-0.09	0.0-2.9	0.0-0.5	.05	.10			
381:												
Donica-----	0-13	8-18	1.25-1.45	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.17	.24	3	5	56
	13-29	8-18	1.25-1.45	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.10	.20			
	29-60	0-5	1.50-1.60	42.00-141.00	0.07-0.09	0.0-2.9	0.0-0.5	.05	.10			
382:												
Donica-----	0-13	8-18	1.25-1.45	14.00-42.00	0.12-0.14	0.0-2.9	1.0-2.0	.17	.24	3	5	56
	13-29	8-18	1.25-1.45	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.10	.20			
	29-60	0-5	1.50-1.60	42.00-141.00	0.07-0.09	0.0-2.9	0.0-0.5	.05	.10			
383:												
Donica-----	0-13	8-18	1.25-1.45	14.00-42.00	0.08-0.12	0.0-2.9	1.0-2.0	.10	.24	3	5	56
	13-29	8-18	1.25-1.45	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.10	.20			
	29-60	0-5	1.50-1.60	42.00-141.00	0.07-0.09	0.0-2.9	0.0-0.5	.05	.10			
384:												
Donica-----	0-13	8-18	1.25-1.45	14.00-42.00	0.08-0.12	0.0-2.9	1.0-2.0	.10	.24	3	6	48
	13-29	8-18	1.25-1.45	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.10	.20			
	29-60	0-5	1.50-1.60	42.00-141.00	0.07-0.09	0.0-2.9	0.0-0.5	.05	.10			
385:												
Donica-----	0-13	8-18	1.25-1.45	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.17	.24	3	5	56
	13-29	8-18	1.25-1.45	14.00-42.00	0.03-0.05	0.0-2.9	0.5-1.0	.10	.20			
	29-60	0-5	1.50-1.60	42.00-141.00	0.07-0.09	0.0-2.9	0.0-0.5	.05	.10			
Surprise-----	0-9	3-12	1.45-1.55	14.00-42.00	0.06-0.10	0.0-2.9	1.0-3.0	.10	.20	5	5	56
	9-28	10-18	1.50-1.60	14.00-42.00	0.09-0.12	0.0-2.9	0.5-1.0	.20	.24			
	28-57	10-18	1.50-1.60	14.00-42.00	0.09-0.12	0.0-2.9	0.5-1.0	.20	.24			
386:												
Dosie-----	0-5	15-25	1.20-1.30	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.15	.49	3	8	0
	5-41	35-50	1.10-1.30	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.10	.32			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Cormol-----	0-3	15-20	1.30-1.40	4.00-14.00	0.12-0.15	0.0-2.9	1.0-2.5	.15	.37	2	6	48
	3-7	15-20	1.30-1.40	4.00-14.00	0.15-0.17	0.0-2.9	1.0-2.5	.28	.37			
	7-11	20-30	1.35-1.40	4.00-14.00	0.13-0.17	3.0-5.9	1.0-2.0	.32	.43			
	11-18	20-30	1.40-1.48	1.40-4.00	0.14-0.17	3.0-5.9	0.3-0.8	.32	.43			
	18-34	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
387: Dosie-----	0-5	15-25	1.20-1.30	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.15	.49	3	8	0
	5-41	35-50	1.10-1.30	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.10	.32			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Fiddler-----	0-7	18-27	1.35-1.50	4.00-14.00	0.11-0.14	0.0-2.9	1.0-3.0	.20	.37	2	8	0
	7-28	35-50	1.30-1.50	0.42-1.40	0.07-0.10	3.0-5.9	0.5-1.0	.10	.37			
	28-38	---	---	0.00-0.42	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0
388: Dosie-----	0-5	15-25	1.20-1.30	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.15	.49	3	8	0
	5-41	35-50	1.10-1.30	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.10	.32			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0
389: Dosie-----	0-5	15-25	1.20-1.30	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.15	.49	3	8	0
	5-41	35-50	1.10-1.30	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.10	.32			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
390: Emagert-----	0-14	15-25	1.10-1.15	4.00-14.00	0.20-0.22	3.0-5.9	2.0-4.0	.28	.32	5	5	56
	14-38	18-27	1.10-1.20	1.40-4.00	0.20-0.22	3.0-5.9	1.0-2.0	.28	.32			
	38-60	15-25	1.20-1.30	1.40-4.00	0.18-0.20	3.0-5.9	0.0-2.0	.28	.32			
391: Emagert-----	0-14	15-25	1.10-1.15	4.00-14.00	0.20-0.22	3.0-5.9	2.0-4.0	.28	.32	5	5	56
	14-38	18-27	1.10-1.20	1.40-4.00	0.20-0.22	3.0-5.9	1.0-2.0	.28	.32			
	38-60	15-25	1.20-1.30	1.40-4.00	0.18-0.20	3.0-5.9	0.0-2.0	.28	.32			
Wetvit-----	0-16	15-20	1.10-1.15	4.00-14.00	0.15-0.17	0.0-2.9	2.0-4.0	.28	.28	5	2	134
	16-44	18-27	1.10-1.20	1.40-4.00	0.20-0.22	3.0-5.9	1.0-2.0	.32	.32			
	44-60	15-25	1.20-1.30	1.40-4.00	0.18-0.20	3.0-5.9	0.5-2.0	.32	.32			
392: Emamout-----	0-17	15-25	1.10-1.15	4.00-14.00	0.20-0.22	3.0-5.9	2.0-4.0	.28	.32	5	5	56
	17-38	18-27	1.10-1.20	1.40-4.00	0.20-0.22	3.0-5.9	1.0-2.0	.28	.32			
	38-60	15-25	1.20-1.30	1.40-4.00	0.18-0.20	3.0-5.9	0.0-2.0	.28	.32			
Grimlake-----	0-2	40-60	1.23-1.26	0.42-1.40	0.11-0.14	6.0-8.9	2.0-3.0	.20	.32	4	5	56
	2-5	40-60	1.23-1.25	0.42-1.41	0.14-0.16	6.0-8.9	2.0-3.0	.32	.32			
	5-14	40-60	1.23-1.49	0.42-1.41	0.14-0.16	6.0-8.9	1.5-2.5	.32	.32			
	14-32	40-60	1.36-1.57	0.42-1.41	0.14-0.16	6.0-8.9	0.5-2.0	.32	.32			
	32-43	30-39	1.30-1.55	1.40-4.00	0.15-0.17	6.0-8.9	0.0-0.3	.32	.32			
	43-60	30-39	1.30-1.55	1.40-4.00	0.07-0.11	6.0-8.9	0.0-0.1	.10	.32			
393: Esmod-----	0-6	10-18	1.15-1.25	4.00-14.00	0.10-0.12	0.0-2.9	1.0-2.0	.17	.32	1	5	56
	6-15	40-50	1.20-1.30	0.01-0.42	0.17-0.19	6.0-8.9	0.0-1.0	.24	.24			
	15-60	---	---	0.00-1.40	---	---	---	---	---			
394: Esmod-----	0-6	10-18	1.15-1.25	4.00-14.00	0.10-0.12	0.0-2.9	1.0-2.0	.17	.32	1	5	56
	6-15	40-50	1.20-1.30	0.01-0.42	0.17-0.19	6.0-8.9	0.0-1.0	.24	.24			
	15-60	---	---	0.00-1.40	---	---	---	---	---			
Hangrock-----	0-4	12-20	1.10-1.20	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.10	.32	2	6	48
	4-17	25-35	1.15-1.25	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.17	.28			
	17-60	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
395: Esmod-----	0-6	10-18	1.15-1.25	4.00-14.00	0.10-0.12	0.0-2.9	1.0-2.0	.17	.32	1	5	56
	6-15	40-50	1.20-1.30	0.01-0.42	0.17-0.19	6.0-8.9	0.0-1.0	.24	.24			
	15-60	---	---	0.00-1.40	---	---	---	---	---			
Powlow-----	0-6	10-18	1.15-1.25	4.00-14.00	0.10-0.12	0.0-2.9	1.0-3.0	.17	.32	2	7	38
	6-15	35-50	1.20-1.30	0.42-1.40	0.17-0.19	6.0-8.9	0.0-2.0	.20	.24			
	15-60	---	---	0.00-1.40	---	---	---	---	---			
396: Ferver-----	0-2	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	3	6	48
	2-5	18-27	1.15-1.25	1.40-4.00	0.19-0.21	0.0-2.9	1.0-2.0	.49	.49			
	5-28	60-70	1.15-1.30	0.01-0.42	0.11-0.13	9.0-25.0	0.0-1.0	.20	.20			
	28-35	35-40	1.20-1.30	0.42-1.40	0.14-0.16	6.0-8.9	0.0-1.0	.28	.28			
	35-46	---	---	0.00-1.40	---	---	---	---	---			
	46-56	---	---	0.00-1.40	---	---	---	---	---			
397: Ferver-----	0-2	18-25	1.15-1.25	1.40-4.00	0.15-0.17	0.0-2.9	1.0-2.0	.15	.49	3	8	0
	2-5	18-27	1.15-1.25	1.40-4.00	0.19-0.21	0.0-2.9	1.0-2.0	.49	.49			
	5-28	60-70	1.15-1.30	0.01-0.42	0.11-0.13	9.0-25.0	0.0-1.0	.20	.20			
	28-35	35-40	1.20-1.30	0.42-1.40	0.14-0.16	6.0-8.9	0.0-1.0	.28	.28			
	35-46	---	---	0.00-1.40	---	---	---	---	---			
	46-56	---	---	0.00-1.40	---	---	---	---	---			
Tunnison-----	0-2	55-60	1.20-1.40	0.42-1.40	0.08-0.10	6.0-8.9	0.5-1.0	.20	.37	2	5	56
	2-27	60-70	1.10-1.30	0.42-1.40	0.10-0.12	6.0-8.9	0.0-0.5	.20	.20			
	27-30	---	---	0.00-1.40	---	---	---	---	---			
	30-40	---	---	0.00-0.42	---	---	---	---	---			
398: Fitzwater-----	0-10	18-25	1.20-1.40	14.00-42.00	0.02-0.06	0.0-2.9	1.0-3.0	.10	.24	5	8	0
	10-19	18-30	1.25-1.45	14.00-42.00	0.02-0.06	0.0-2.9	0.5-1.0	.10	.32			
	19-60	18-25	1.25-1.45	14.00-42.00	0.02-0.06	0.0-2.9	0.0-0.5	.10	.32			
Westbutte-----	0-7	18-27	1.20-1.40	4.00-14.00	0.06-0.10	0.0-2.9	2.0-4.0	.10	.28	2	8	0
	7-33	18-30	1.25-1.45	4.00-14.00	0.07-0.10	0.0-2.9	1.0-3.0	.15	.32			
	33-43	---	---	0.00-0.42	---	---	---	---	---			
399: Fluvaquents-----	0-6	0-5	1.45-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	1.0-2.0	.05	.15	5	3	86
	6-60	5-25	1.25-1.65	1.40-42.00	0.04-0.10	0.0-2.9	0.0-0.5	.17	.28			
Riverwash-----	0-6	0-1	---	42.00-141.00	0.03-0.04	0.0-2.9	0.0-0.1	---	---	---	2	134
	6-60	0-1	---	42.00-141.00	0.02-0.03	0.0-2.9	---	---	---			
400: Four Star-----	0-8	10-20	1.30-1.35	4.00-14.00	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	5	56
	8-30	7-18	1.35-1.45	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.28	.28			
	30-60	7-18	1.35-1.45	14.00-42.00	0.17-0.20	0.0-2.9	0.0-0.5	.32	.32			
401: Four Star-----	0-8	10-20	1.30-1.35	4.00-14.00	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	5	56
	8-30	7-18	1.35-1.45	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.28	.28			
	30-40	7-18	1.35-1.45	14.00-42.00	0.17-0.20	0.0-2.9	0.0-0.5	.32	.32			
	40-60	40-60	1.35-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.0-0.0	.28	.28			
402: Four Star-----	0-8	10-20	1.30-1.35	4.00-14.00	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	5	56
	8-30	7-18	1.35-1.45	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.28	.28			
	30-60	7-18	1.35-1.45	14.00-42.00	0.17-0.20	0.0-2.9	0.0-0.5	.32	.32			
403: Four Star-----	0-8	10-20	1.30-1.35	4.00-14.00	0.20-0.22	0.0-2.9	2.0-4.0	.28	.28	5	5	56
	8-30	7-18	1.35-1.45	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.28	.28			
	30-60	7-18	1.35-1.45	14.00-42.00	0.17-0.20	0.0-2.9	0.0-0.5	.32	.32			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
404: Freznik-----	0-3	20-27	1.20-1.30	4.00-14.00	0.08-0.11	0.0-2.9	1.0-2.0	.15	.32	2	8	0
	3-25	40-60	1.25-1.45	0.01-0.42	0.15-0.18	6.0-8.9	0.5-2.0	.32	.37			
	25-32	30-45	1.25-1.45	0.42-1.40	0.16-0.19	3.0-5.9	0.0-0.5	.37	.43			
	32-36	---	---	0.00-0.01	---	---	---	---	---			
405: Fulstone-----	0-4	5-15	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	1	5	56
	4-16	45-60	1.20-1.35	0.42-1.40	0.12-0.16	6.0-8.9	0.0-1.0	.17	.37			
	16-26	---	---	0.00-0.42	---	---	---	---	---			
	26-60	5-15	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			
Nellspring-----	0-3	12-20	1.15-1.25	4.00-14.00	0.10-0.12	0.0-2.9	1.0-2.0	.17	.32	2	5	56
	3-18	50-60	1.15-1.25	0.01-0.42	0.14-0.16	6.0-8.9	0.0-1.0	.24	.24			
	18-35	35-50	1.20-1.30	0.01-0.42	0.17-0.19	6.0-8.9	0.0-1.0	.28	.28			
	35-60	---	---	0.00-1.40	---	---	---	---	---			
Buffaran-----	0-2	20-27	1.10-1.25	1.40-4.00	0.12-0.15	3.0-5.9	2.0-4.0	.32	.55	1	7	38
	2-16	35-50	1.15-1.30	0.42-1.40	0.12-0.15	6.0-8.9	0.0-1.0	.24	.32			
	16-27	---	---	0.00-0.42	---	---	---	---	---			
	27-60	---	---	0.00-1.40	---	---	---	---	---			
406: Fulstone-----	0-4	5-15	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	1	5	56
	4-16	45-60	1.20-1.35	0.42-1.40	0.12-0.16	6.0-8.9	0.0-1.0	.17	.37			
	16-26	---	---	0.00-0.42	---	---	---	---	---			
	26-60	5-15	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.05	.37			
Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Tuffo-----	0-1	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.15	.32	1	5	56
	1-8	5-15	1.35-1.55	14.00-42.00	0.13-0.16	0.0-2.9	0.0-1.0	.24	.37			
	8-30	---	---	0.00-1.40	---	---	---	---	---			
407: Gorzell-----	0-8	10-18	1.35-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-1.5	.24	.37	3	5	56
	8-12	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.5-1.0	.20	.43			
	12-30	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.2-0.5	.20	.43			
	30-60	0-8	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Old Camp-----	0-2	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	6	48
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
408: Gorzell-----	0-8	10-18	1.35-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-1.5	.24	.37	3	5	56
	8-12	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.5-1.0	.20	.43			
	12-30	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.2-0.5	.20	.43			
	30-60	0-8	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
409: Grassycan-----	0-4	12-18	1.15-1.25	4.00-14.00	0.10-0.12	0.0-2.9	1.0-2.0	.15	.32	1	6	48
	4-12	35-50	1.20-1.30	0.01-0.42	0.14-0.16	6.0-8.9	0.0-1.0	.24	.24			
	12-13	---	---	0.00-1.40	---	---	---	---	---			
	13-23	---	---	0.00-0.42	---	---	---	---	---			
Grassycan-----	0-4	12-18	1.15-1.25	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.10	.32	1	8	0
	4-12	35-50	1.20-1.30	0.01-0.42	0.14-0.16	6.0-8.9	0.0-1.0	.24	.24			
	12-13	---	---	0.00-1.40	---	---	---	---	---			
	13-23	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
410: Grassyca-----	0-4	12-18	1.15-1.25	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.10	.32	1	8	0
	4-12	35-50	1.20-1.30	0.01-0.42	0.14-0.16	6.0-8.9	0.0-1.0	.24	.24			
	12-13	---	---	0.00-1.40	---	---	---	---	---			
	13-23	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
411: Gurlidawg-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	2	5	56
	1-6	8-18	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.15	.37			
	6-30	10-18	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.15	.37			
	30-40	---	---	0.00-0.41	---	---	---	---	---			
412: Gurlidawg-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	2	5	56
	1-6	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-3.0	.10	.24			
	6-30	10-18	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.15	.37			
	30-40	---	---	0.00-0.41	---	---	---	---	---			
413: Gurlidawg-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	2	5	56
	1-6	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-3.0	.10	.24			
	6-30	10-18	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.15	.37			
	30-40	---	---	0.00-0.41	---	---	---	---	---			
414: Gurlidawg-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	2	5	56
	1-6	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-3.0	.10	.24			
	6-30	10-18	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-3.0	.15	.37			
	30-40	---	---	0.00-0.41	---	---	---	---	---			
415: Halvert-----	0-2	20-27	1.15-1.25	4.00-14.00	0.15-0.17	0.0-2.9	1.0-2.0	.20	.37	2	7	38
	2-5	27-35	1.15-1.25	1.40-4.00	0.18-0.20	3.0-5.9	1.0-2.0	.28	.43			
	5-27	60-70	1.10-1.30	0.01-0.42	0.11-0.13	6.0-8.9	0.5-2.0	.24	.37			
	27-32	---	---	0.00-0.42	---	---	---	---	---			
	32-42	---	---	0.00-1.40	---	---	---	---	---			
Jaybee-----	0-4	18-25	1.25-1.40	4.00-14.00	0.07-0.09	0.0-2.9	1.0-2.0	.20	.43	1	8	0
	4-14	35-45	1.25-1.45	0.42-1.40	0.16-0.18	6.0-8.9	0.0-0.5	.28	.37			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Tunnison-----	0-2	55-60	1.20-1.40	0.42-1.40	0.08-0.10	6.0-8.9	0.5-1.0	.20	.37	2	5	56
	2-27	60-70	1.10-1.30	0.42-1.40	0.10-0.12	6.0-8.9	0.0-0.5	.20	.20			
	27-30	---	---	0.00-1.40	---	---	---	---	---			
	30-40	---	---	0.00-0.42	---	---	---	---	---			
416: Hangrock-----	0-4	12-20	1.10-1.20	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.10	.32	2	6	48
	4-17	25-35	1.15-1.25	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.17	.28			
	17-60	---	---	0.00-1.40	---	---	---	---	---			
417: Harskel-----	0-3	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.5-2.5	.05	.37	2	8	0
	3-8	18-27	1.45-1.55	4.00-14.00	0.11-0.13	3.0-5.9	1.0-2.0	.15	.37			
	8-19	18-27	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	19-29	---	---	0.00-1.40	---	---	---	---	---			
Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
Cowbell-----	0-3	8-15	1.50-1.65	14.00-42.00	0.10-0.12	---	10-16	.05	.24	4	8	0
	3-9	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	9-40	18-25	1.35-1.50	4.00-14.00	0.14-0.16	0.0-2.9	0.5-2.0	.10	.24			
	40-60	20-25	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-1.0	.20	.37			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
418: Harskel-----	0-3	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.5-2.5	.05	.37	2	8	0
	3-8	18-27	1.45-1.55	4.00-14.00	0.11-0.13	3.0-5.9	1.0-2.0	.15	.37			
	8-19	18-27	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	19-29	---	---	0.00-1.40	---	---	---	---	---			
Menbo-----	0-6	15-25	1.25-1.45	4.00-14.00	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37	2	7	38
	6-26	35-50	1.35-1.55	0.42-1.40	0.06-0.10	6.0-8.9	1.0-2.0	.10	.37			
	26-36	---	---	0.00-0.42	---	---	---	---	---			
419: Harskel-----	0-3	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.5-2.5	.05	.37	2	8	0
	3-8	18-27	1.45-1.55	4.00-14.00	0.11-0.13	3.0-5.9	1.0-2.0	.15	.37			
	8-19	18-27	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	19-29	---	---	0.00-1.40	---	---	---	---	---			
Ninemile-----	0-7	15-25	1.35-1.50	4.00-14.00	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	7-19	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Cowbell-----	0-3	8-15	1.50-1.65	14.00-42.00	0.10-0.12	---	10-16	.05	.24	4	8	0
	3-9	15-22	1.35-1.45	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.05	.37			
	9-40	18-25	1.35-1.50	4.00-14.00	0.14-0.16	0.0-2.9	0.5-2.0	.10	.24			
	40-60	20-25	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-1.0	.20	.37			
420: Hart Camp-----	0-3	10-17	1.30-1.45	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.20	.43	2	6	48
	3-13	20-35	1.35-1.50	1.40-4.00	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	13-23	---	---	0.00-1.40	---	---	---	---	---			
Menbo-----	0-6	15-25	1.25-1.45	4.00-14.00	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37	2	6	48
	6-26	35-50	1.35-1.55	0.42-1.40	0.06-0.10	6.0-8.9	1.0-2.0	.10	.37			
	26-36	---	---	0.00-0.42	---	---	---	---	---			
421: Hart Camp-----	0-3	10-17	1.30-1.45	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.20	.32	2	6	48
	3-16	20-35	1.35-1.50	1.40-4.00	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	16-26	---	---	0.00-1.40	---	---	---	---	---			
Ninemile-----	0-7	10-20	1.15-1.35	4.00-14.00	0.07-0.12	0.0-2.9	1.0-3.0	.15	.43	1	7	38
	7-19	40-60	1.20-1.40	0.01-0.42	0.14-0.16	6.0-8.9	1.0-2.0	.20	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
422: Hart Camp, moist----	0-3	10-17	1.30-1.45	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.20	.43	2	6	48
	3-13	20-35	1.35-1.50	1.40-4.00	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	13-23	---	---	0.00-1.40	---	---	---	---	---			
Runyon-----	0-2	10-18	1.10-1.20	4.00-14.00	0.15-0.19	0.0-2.9	1.0-3.0	.15	.43	2	6	48
	2-5	10-18	1.10-1.20	4.00-14.00	0.15-0.19	0.0-2.9	1.0-3.0	.28	.32			
	5-25	20-30	1.15-1.23	4.00-14.00	0.15-0.19	0.0-2.9	0.5-3.0	.17	.28			
	25-37	25-35	1.15-1.23	4.00-14.00	0.15-0.19	0.0-2.9	0.5-3.0	.37	.55			
	37-72	---	---	0.00-0.42	---	---	---	---	---			
Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
423: Hart Camp-----	0-3	10-17	1.30-1.45	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.20	.43	2	6	48
	3-13	20-35	1.35-1.50	1.40-4.00	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	13-23	---	---	0.00-1.40	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
424: Hartner-----	0-1	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	1.0-2.0	.02	.05	1	5	56
	1-4	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	0.5-0.8	.17	.32			
	4-14	---	---	0.00-1.40	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
Sesdah-----	0-5	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	1.0-2.0	.17	.32	1	5	56
	5-10	18-27	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	1.0-2.0	.17	.32			
	10-16	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	16-26	---	---	0.00-1.40	---	---	---	---	---			
425: Home Camp-----	0-3	10-20	1.20-1.40	4.23-14.11	0.14-0.16	0.0-2.9	2.0-4.0	.20	.37	3	6	48
	3-9	10-20	1.20-1.40	4.23-14.11	0.14-0.16	0.0-2.9	2.0-4.0	.20	.37			
	9-17	25-35	1.30-1.50	1.41-4.23	0.15-0.18	0.0-2.9	1.0-2.0	.10	.37			
	17-28	40-50	1.25-1.40	1.41-4.23	0.12-0.14	3.0-5.9	0.5-1.0	.05	.37			
	28-38	---	---	0.00-0.07	---	---	---	---	---			
Runyon-----	0-2	10-18	1.10-1.20	4.00-14.00	0.15-0.19	0.0-2.9	1.0-3.0	.15	.43	2	6	48
	2-5	10-18	1.10-1.20	4.00-14.00	0.15-0.19	0.0-2.9	1.0-3.0	.28	.32			
	5-25	20-30	1.15-1.23	4.00-14.00	0.15-0.19	0.0-2.9	0.5-3.0	.17	.28			
	25-37	25-35	1.15-1.23	4.00-14.00	0.15-0.19	0.0-2.9	0.5-3.0	.37	.55			
	37-72	---	---	0.00-0.42	---	---	---	---	---			
426: Hovey-----	0-10	27-40	1.40-1.50	0.42-1.40	0.17-0.19	3.0-5.9	1.0-4.0	.43	.43	5	4L	86
	10-48	24-35	1.45-1.55	0.42-1.40	0.15-0.19	3.0-5.9	0.5-1.0	.49	.49			
	48-72	15-35	1.50-1.60	0.42-1.40	0.15-0.19	3.0-5.9	0.0-0.0	.49	.49			
427: Hussa-----	0-12	27-35	1.30-1.35	1.40-4.00	0.22-0.24	3.0-5.9	1.0-3.0	.32	.32	5	2	134
	12-60	25-35	1.30-1.35	1.40-4.00	0.21-0.24	3.0-5.9	0.5-1.0	.32	.32			
428: Hussa-----	0-12	27-35	1.30-1.35	1.40-4.00	0.22-0.24	3.0-5.9	1.0-3.0	.32	.32	5	2	134
	12-45	25-35	1.30-1.35	1.40-4.00	0.21-0.24	3.0-5.9	0.5-1.0	.32	.32			
	45-60	40-60	1.30-1.40	0.01-0.42	0.07-0.12	6.0-8.9	0.0-0.0	.32	.32			
429: Hussa-----	0-12	15-27	1.35-1.40	4.00-14.00	0.20-0.23	0.0-2.9	1.0-3.0	.37	.37	5	2	134
	12-45	25-35	1.30-1.35	1.40-4.00	0.21-0.24	3.0-5.9	0.5-1.0	.32	.32			
	45-60	40-60	1.30-1.40	0.01-0.42	0.07-0.12	6.0-8.9	0.0-0.0	.32	.32			
430: Hussa-----	0-12	15-27	1.35-1.40	4.00-14.00	0.20-0.22	0.0-2.9	1.0-3.0	.37	.37	5	2	134
	12-60	25-35	1.30-1.35	1.40-4.00	0.21-0.24	3.0-5.9	0.5-1.0	.32	.32			
431: Hussa-----	0-12	15-27	1.35-1.40	4.00-14.00	0.20-0.22	0.0-2.9	1.0-3.0	.37	.37	5	2	134
	12-60	25-35	1.30-1.35	1.40-4.00	0.21-0.24	3.0-5.9	0.5-1.0	.32	.32			
432: Hussa-----	0-10	15-25	1.30-1.40	4.00-14.00	0.21-0.23	0.0-2.9	1.0-3.0	.37	.37	5	2	134
	10-40	25-35	1.30-1.35	1.40-4.00	0.20-0.24	3.0-5.9	0.5-1.0	.32	.32			
	40-60	35-45	1.25-1.30	0.42-1.40	0.20-0.23	6.0-8.9	0.0-0.0	.28	.28			
433: Hussa-----	0-12	27-35	1.30-1.35	1.40-4.00	0.22-0.24	3.0-5.9	1.0-3.0	.32	.32	5	2	134
	12-60	25-35	1.30-1.35	1.40-4.00	0.21-0.24	3.0-5.9	0.5-1.0	.32	.32			
434: Hussa-----	0-12	27-35	1.30-1.35	1.40-4.00	0.22-0.24	3.0-5.9	1.0-3.0	.32	.32	5	2	134
	12-60	25-35	1.30-1.35	1.40-4.00	0.21-0.24	3.0-5.9	0.5-1.0	.32	.32			
435: Hussa-----	0-12	15-27	1.35-1.40	4.00-14.00	0.20-0.22	0.0-2.9	1.0-3.0	.37	.37	5	2	134
	12-60	25-35	1.30-1.35	1.40-4.00	0.21-0.24	3.0-5.9	0.5-1.0	.32	.32			
Couch-----	0-1	15-25	1.25-1.45	4.00-14.00	0.13-0.16	0.0-2.9	1.0-2.0	.37	.37	2	2	134
	1-22	35-60	1.25-1.45	0.42-1.40	0.05-0.08	6.0-8.9	0.5-1.0	.32	.32			
	22-60	15-25	1.35-1.55	1.40-4.00	0.16-0.18	0.0-2.9	0.0-0.5	.32	.24			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
436: Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
437: Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
438: Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Zorromount-----	0-1	8-15	0.65-0.85	42.00-141.00	0.10-0.12	0.0-2.9	10-16	.02	.05	4	5	56
	1-11	8-15	0.80-1.15	14.00-42.00	0.06-0.10	0.0-2.9	4.0-10	.02	.05			
	11-31	8-15	1.14-1.16	14.00-42.00	0.03-0.06	0.0-2.9	0.8-2.0	.05	.24			
	31-60	8-15	1.15-1.17	14.00-42.00	0.03-0.06	0.0-2.9	0.3-0.8	.05	.24			
439: Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Mosquet-----	0-2	5-10	1.25-1.30	14.00-42.00	0.06-0.09	0.0-2.9	2.0-3.0	.10	.32	1	5	56
	2-5	18-25	1.25-1.30	4.00-14.00	0.11-0.15	3.0-5.9	2.0-3.0	.20	.37			
	5-9	35-40	1.30-1.35	0.42-1.40	0.14-0.17	6.0-8.9	1.0-2.0	.24	.43			
	9-14	35-45	1.32-1.37	0.42-1.40	0.08-0.12	6.0-8.9	0.5-1.0	.15	.37			
	14-24	---	---	0.00-0.01	---	---	---	---	---			
Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
440: Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Ninemile-----	0-7	15-25	1.35-1.50	4.00-14.00	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	7-19	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Nutzan-----	0-10	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	3	5	56
	10-17	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.24	.32			
	17-28	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.10	.32			
	28-36	10-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.05	.24			
	36-46	---	---	0.00-1.40	---	---	---	---	---			
441: Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
442: Indian Creek-----	0-5	15-25	1.25-1.45	14.00-42.00	0.08-0.12	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	5-18	35-55	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	0.5-1.0	.24	.37			
	18-25	---	---	0.00-0.42	---	---	---	---	---			
	25-60	5-20	1.40-1.60	1.40-42.00	0.00-0.03	0.0-2.9	0.0-0.5	.10	.20			
Buffaran-----	0-2	20-27	1.10-1.25	1.40-4.00	0.10-0.13	3.0-5.9	2.0-4.0	.28	.49	1	5	56
	2-16	35-50	1.15-1.30	0.42-1.40	0.12-0.15	6.0-8.9	0.0-1.0	.24	.32			
	16-27	---	---	0.00-0.42	---	---	---	---	---			
	27-60	---	---	0.00-1.40	---	---	---	---	---			
443: Jaybee-----	0-4	18-25	1.25-1.40	4.00-14.00	0.07-0.09	0.0-2.9	1.0-2.0	.20	.43	1	8	0
	4-14	35-45	1.25-1.45	0.42-1.40	0.16-0.18	6.0-8.9	0.0-0.5	.28	.37			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Verdico-----	0-3	8-18	1.35-1.50	14.00-42.00	0.08-0.13	0.0-2.9	0.8-2.0	.28	.32	3	5	56
	3-17	45-60	1.25-1.40	0.01-0.42	0.13-0.18	6.0-8.9	0.5-1.0	.28	.32			
	17-22	45-60	1.25-1.40	0.01-0.42	0.13-0.18	6.0-8.9	0.0-0.5	.24	.37			
	22-32	---	---	0.00-1.40	---	---	---	---	---			
444: Keddie-----	0-34	18-27	1.35-1.50	4.23-14.11	0.15-0.17	0.0-2.9	1.0-3.0	.32	.37	4	6	48
	34-50	18-27	1.35-1.50	4.23-14.11	0.15-0.17	0.0-2.9	1.0-2.0	.24	.32			
	50-60	10-25	1.50-1.70	14.11-42.34	0.04-0.08	0.0-2.9	1.0-2.0	.10	.32			
445: Leviathan-----	0-8	10-20	1.30-1.50	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.15	.43	5	7	38
	8-60	27-35	1.35-1.55	1.40-4.00	0.07-0.09	0.0-2.9	0.5-1.0	.15	.37			
446: Lolak-----	0-4	40-50	1.25-1.40	0.01-0.42	0.16-0.17	6.0-8.9	1.0-2.0	.28	.28	5	4	86
	4-60	35-50	1.30-1.50	0.01-0.42	0.15-0.16	6.0-8.9	0.5-1.0	.37	.37			
447: Longdis-----	0-5	27-35	1.25-1.40	1.40-4.00	0.17-0.18	3.0-5.9	1.0-2.0	.43	.43	2	4	86
	5-26	40-50	1.20-1.35	0.42-1.40	0.15-0.17	6.0-8.9	0.5-1.0	.37	.37			
	26-45	35-50	1.30-1.50	0.42-1.40	0.17-0.18	6.0-8.9	0.0-0.5	.49	.49			
	45-61	35-45	1.30-1.45	0.42-1.40	0.15-0.17	6.0-8.9	0.0-0.5	.37	.37			
Dugway-----	0-5	5-15	1.35-1.55	14.00-42.00	0.10-0.12	0.0-2.9	0.8-2.0	.24	.24	2	3	86
	5-18	35-50	1.25-1.45	0.42-1.40	0.16-0.18	6.0-8.9	0.5-1.0	.24	.24			
	18-35	20-30	1.30-1.50	1.40-4.00	0.18-0.20	3.0-5.9	0.0-0.5	.55	.55			
	35-52	---	---	0.00-1.40	---	---	---	---	---			
	52-61	25-35	1.35-1.55	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			
448: Longval-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	2	5	56
	1-15	5-12	1.07-1.10	14.00-42.00	0.11-0.15	0.0-2.9	1.0-4.0	.24	.32			
	15-32	5-12	1.07-1.10	14.00-42.00	0.10-0.13	0.0-2.9	1.5-2.5	.32	.10			
	32-60	7-9	1.07-1.10	14.00-42.00	0.13-0.15	0.0-2.9	0.1-1.5	.10	.28			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
449: Lotawaca-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	4	5	56
	1-7	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-4.0	.10	.24			
	7-20	18-25	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	20-40	18-25	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	0.5-1.5	.15	.37			
	40-50	---	---	0.00-0.41	---	---	---	---	---			
450: Lotawaca-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	4	5	56
	1-7	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-4.0	.10	.24			
	7-20	18-25	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	20-40	18-25	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	0.5-1.5	.15	.37			
	40-50	---	---	0.00-0.41	---	---	---	---	---			
451: Lyonman-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	4	3	86
	1-7	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.32	.24			
	7-13	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	1.0-4.0	.02	.05			
	13-31	18-27	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	31-56	---	---	0.00-1.40	---	---	---	---	---			
452: Lyonman-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	4	3	86
	1-7	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.32	.24			
	7-13	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	1.0-4.0	.02	.05			
	13-31	18-27	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	31-56	---	---	0.00-1.40	---	---	---	---	---			
453: Lyonman-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	4	3	86
	1-7	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.32	.24			
	7-13	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	1.0-4.0	.02	.05			
	13-31	18-27	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	31-56	---	---	0.00-1.40	---	---	---	---	---			
454: Lyonman, cool-----	0-1	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	4	3	86
	1-7	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-4.0	.32	.24			
	7-13	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	1.0-4.0	.02	.05			
	13-31	18-27	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	31-56	---	---	0.00-1.40	---	---	---	---	---			
455: Macnot-----	0-1	5-10	1.35-1.50	14.00-42.00	0.05-0.10	0.0-2.9	1.0-2.0	.05	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
456: Macnot-----	0-1	5-10	1.35-1.50	14.00-42.00	0.05-0.10	0.0-2.9	1.0-2.0	.05	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Glasshawk-----	0-2	8-15	1.40-1.55	4.00-14.00	0.09-0.13	0.0-2.9	0.8-1.5	.10	.32	2	6	48
	2-7	8-15	1.40-1.55	4.00-14.00	0.18-0.20	0.0-2.9	0.5-0.7	.32	.32			
	7-12	8-15	1.35-1.50	4.00-14.00	0.12-0.17	0.0-2.9	0.2-0.5	.28	.37			
	12-48	---	---	0.00-1.40	---	---	---	---	---			
	48-60	---	---	0.01-0.42	---	---	---	---	---			
457: Macnot-----	0-1	5-10	1.35-1.50	14.00-42.00	0.05-0.10	0.0-2.9	1.0-2.0	.05	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Gorzell-----	0-8	10-18	1.35-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-1.5	.24	.37	3	5	56
	8-12	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.5-1.0	.20	.43			
	12-30	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.2-0.5	.20	.43			
	30-60	0-8	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Macnot, nearly level-	0-1	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
458: Macnot, nearly level-	0-1	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Jesayno-----	0-12	12-25	1.25-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	5	4	86
	12-24	12-25	1.45-1.50	4.00-14.00	0.17-0.18	0.0-2.9	0.5-1.0	.43	.43			
	24-41	18-27	1.35-1.45	1.40-4.00	0.17-0.18	3.0-5.9	0.0-0.5	.43	.43			
	41-60	18-27	1.35-1.45	1.40-4.00	0.17-0.18	3.0-5.9	0.0-0.5	.43	.43			
Nevadash-----	0-2	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.32	5	5	56
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
459: Macnot-----	0-1	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Mcwatt-----	0-10	8-15	1.15-1.25	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.17	.32	3	5	56
	10-20	8-15	1.15-1.35	14.00-42.00	0.06-0.08	0.0-2.9	0.0-1.0	.05	.37			
	20-44	0-5	1.30-1.40	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.02	.15			
	44-54	---	---	0.00-0.42	---	---	---	---	---			
Old Camp-----	0-2	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	6	48
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
460: Macnot-----	0-1	5-10	1.35-1.50	14.00-42.00	0.05-0.10	0.0-2.9	1.0-2.0	.05	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Macnot, nearly level-	0-1	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Nomazu, moderately saline-----	0-7	8-18	1.40-1.50	14.00-42.00	0.15-0.18	0.0-3.0	0.2-0.5	.55	.55	5	2	134
	7-10	10-15	1.30-1.40	14.00-42.00	0.11-0.16	0.0-3.0	0.0-0.5	.32	.32			
	10-13	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.2	.32	.32			
	13-29	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.2	.32	.32			
	29-38	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
	38-48	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
	48-60	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
461:												
Madeline-----	0-5	20-27	1.30-1.40	4.23-14.11	0.11-0.14	3.0-5.9	1.0-2.0	.20	.37	1	8	0
	5-9	35-60	1.25-1.35	0.42-1.41	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	9-16	35-60	1.25-1.35	0.42-1.41	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	16-29	---	---	0.00-0.07	---	---	---	---	---			
Sumine-----	0-5	10-20	1.20-1.40	4.23-14.11	0.11-0.13	0.0-2.9	2.0-4.0	.24	.43	2	6	48
	5-11	25-35	1.40-1.60	1.41-4.23	0.10-0.13	0.0-2.9	0.5-3.0	.15	.55			
	11-24	25-35	1.40-1.60	4.23-14.11	0.10-0.13	0.0-2.9	0.5-3.0	.15	.55			
	24-34	---	---	0.00-0.07	---	---	---	---	---			
462:												
Mazuma-----	0-6	8-12	1.40-1.55	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.5	.28	.32	5	3	86
	6-62	5-15	1.45-1.65	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.24	.37			
Bighat-----	0-2	8-18	1.50-1.65	4.00-14.00	0.07-0.10	0.0-2.9	0.0-0.5	.20	.37	2	5	56
	2-9	8-18	1.45-1.65	4.00-14.00	0.08-0.12	0.0-2.9	0.0-0.5	.20	.37			
	9-16	25-35	1.45-1.65	1.40-4.00	0.10-0.13	3.0-5.9	0.0-0.5	.20	.28			
	16-31	0-2	1.55-1.75	42.00-141.00	0.01-0.02	0.0-2.9	0.0-0.5	.02	.10			
	31-60	0-2	1.55-1.75	42.00-141.00	0.01-0.02	0.0-2.9	0.0-0.5	.02	.10			
463:												
Mcwatt-----	0-10	8-15	1.15-1.25	14.00-42.00	0.06-0.08	0.0-2.9	1.0-2.0	.05	.32	3	8	0
	10-20	8-15	1.15-1.35	14.00-42.00	0.06-0.08	0.0-2.9	0.0-1.0	.05	.37			
	20-44	0-5	1.30-1.40	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.02	.15			
	44-54	---	---	0.00-0.42	---	---	---	---	---			
Old Camp-----	0-2	10-20	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
464:												
Mcwatt-----	0-10	8-15	1.15-1.25	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.17	.32	3	5	56
	10-20	8-15	1.15-1.35	14.00-42.00	0.06-0.08	0.0-2.9	0.0-1.0	.05	.37			
	20-44	0-5	1.30-1.40	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.02	.15			
	44-54	---	---	0.00-0.42	---	---	---	---	---			
Skedaddle-----	0-2	12-18	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	1	5	56
	2-10	18-32	1.35-1.50	14.00-42.00	0.07-0.12	0.0-2.9	0.4-1.0	.15	.37			
	10-20	---	---	0.00-0.42	---	---	---	---	---			
465:												
Medved-----	0-5	8-15	1.40-1.55	14.00-42.00	0.08-0.10	0.0-2.9	1.0-2.0	.20	.32	1	5	56
	5-9	8-15	1.40-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.0-0.5	.02	.24			
	9-19	---	---	0.00-0.42	---	---	---	---	---			
466:												
Menbo-----	0-6	15-25	1.25-1.45	4.00-14.00	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37	2	6	48
	6-26	35-50	1.35-1.55	0.42-1.40	0.06-0.10	6.0-8.9	1.0-2.0	.10	.37			
	26-36	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.15	.43	5	6	48
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
Badgercamp-----	0-5	8-12	1.30-1.50	4.00-14.00	0.14-0.16	0.0-2.9	2.0-4.0	.24	.43	2	6	48
	5-15	12-18	1.45-1.65	4.00-14.00	0.05-0.10	0.0-2.9	1.0-2.0	.05	.43			
	15-25	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
467: Nevadash-----	0-2	15-20	1.25-1.45	4.00-42.00	0.18-0.20	0.0-2.9	1.0-2.0	.32	.32	5	2	134
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
468: Nevadash-----	0-2	15-20	1.25-1.45	4.00-42.00	0.18-0.20	0.0-2.9	1.0-2.0	.32	.32	5	2	134
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
469: Nevadash-----	0-2	3-10	1.45-1.60	141.00- 705.00	0.09-0.13	0.0-2.9	1.0-2.0	.17	.17	5	1	160
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
470: Nevadash-----	0-2	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.32	5	5	56
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
Couch-----	0-1	15-20	1.25-1.45	4.00-42.00	0.18-0.20	0.0-2.9	1.0-2.0	.32	.32	2	2	134
	1-6	35-60	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	6-13	35-60	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	13-22	35-40	1.25-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-1.0	.32	.32			
	22-60	15-25	1.35-1.55	1.40-4.00	0.16-0.18	0.0-2.9	0.0-0.5	.32	.24			
471: Nevadash-----	0-2	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.32	5	5	56
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
Gorzell-----	0-8	10-18	1.35-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-1.5	.24	.37	3	5	56
	8-12	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.5-1.0	.20	.43			
	12-30	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.2-0.5	.20	.43			
	30-60	0-8	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
472: Nevadash-----	0-2	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.32	5	5	56
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
Jesayno-----	0-12	12-25	1.25-1.30	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.43	.43	5	4	86
	12-24	12-25	1.45-1.50	4.00-14.00	0.17-0.18	0.0-2.9	0.5-1.0	.43	.43			
	24-41	18-27	1.35-1.45	1.40-4.00	0.17-0.18	3.0-5.9	0.0-0.5	.43	.43			
	41-60	18-27	1.35-1.45	1.40-4.00	0.17-0.18	3.0-5.9	0.0-0.5	.43	.43			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
473: Nevadash-----	0-2	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.32	5	5	56
	2-5	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.5-0.9	.17	.20			
	5-17	20-27	1.40-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	17-28	10-15	1.40-1.50	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	28-44	10-15	1.45-1.55	14.00-42.00	0.10-0.15	0.0-2.9	0.0-0.2	.32	.32			
	44-68	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.2	.17	.32			
Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
474: Newlands-----	0-6	10-25	1.30-1.40	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.24	.37	3	6	48
	6-41	27-35	1.30-1.40	1.40-4.00	0.15-0.18	3.0-5.9	0.5-1.0	.28	.43			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Menbo-----	0-2	10-18	1.20-1.40	4.00-14.00	0.07-0.12	0.0-2.9	2.0-4.0	.10	.37	2	7	38
	2-7	15-25	1.35-1.55	4.00-14.00	0.10-0.14	0.0-2.9	2.0-4.0	.15	.37			
	7-36	35-50	1.35-1.55	0.42-1.40	0.06-0.10	6.0-8.9	1.0-2.0	.10	.37			
	36-44	---	---	0.00-0.42	---	---	---	---	---			
475: Ninemile-----	0-7	15-25	1.35-1.50	4.00-14.00	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	7-19	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Crocan-----	0-3	12-18	1.10-1.20	4.00-14.00	0.16-0.18	0.0-2.9	5.0-10	.10	.17	1	8	0
	3-5	33-40	1.15-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.32	.37			
	5-14	55-65	1.30-1.40	0.01-0.42	0.12-0.14	6.0-8.9	1.0-2.0	.20	.24			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
476: Ninemile-----	0-7	15-25	1.35-1.50	4.00-14.00	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	7-19	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Karlo-----	0-2	55-70	1.05-1.25	0.42-1.40	0.10-0.12	6.0-8.9	1.0-2.0	.10	.43	2	5	56
	2-40	60-70	1.15-1.35	0.42-1.40	0.12-0.14	6.0-8.9	0.0-0.5	.20	.20			
	40-50	---	---	0.00-0.42	---	---	---	---	---			
Crocan-----	0-3	12-18	1.10-1.20	4.00-14.00	0.16-0.18	0.0-2.9	5.0-10	.10	.17	1	8	0
	3-5	33-40	1.15-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.32	.37			
	5-14	55-65	1.30-1.40	0.01-0.42	0.12-0.14	6.0-8.9	1.0-2.0	.20	.24			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
477: Ninemile-----	0-7	15-25	1.35-1.50	4.00-14.00	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	7-19	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Madeline-----	0-2	20-27	1.20-1.35	4.00-14.00	0.09-0.11	3.0-5.9	2.0-3.0	.15	.43	1	8	0
	2-6	25-40	1.25-1.45	1.40-4.00	0.14-0.16	3.0-5.9	1.0-2.0	.17	.37			
	6-19	35-60	1.20-1.35	0.42-1.40	0.14-0.16	6.0-8.9	1.0-2.0	.15	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Crocan-----	0-3	12-18	1.10-1.20	4.00-14.00	0.16-0.18	0.0-2.9	5.0-10	.10	.17	1	8	0
	3-5	33-40	1.15-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.32	.37			
	5-14	55-65	1.30-1.40	0.01-0.42	0.12-0.14	6.0-8.9	1.0-2.0	.20	.24			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
478: Ninemile-----	0-2	15-25	1.15-1.25	4.00-14.00	0.11-0.13	0.0-2.9	2.0-4.0	.02	.43	1	8	0
	2-14	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	14-24	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Madeline-----	0-2	20-27	1.20-1.35	4.00-14.00	0.10-0.12	3.0-5.9	2.0-3.0	.17	.32	1	5	56
	2-6	25-40	1.25-1.45	1.40-4.00	0.14-0.16	3.0-5.9	1.0-2.0	.17	.37			
	6-19	35-60	1.20-1.35	0.42-1.40	0.14-0.16	6.0-8.9	1.0-2.0	.15	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
479: Ninemile-----	0-7	15-25	1.35-1.50	4.00-14.00	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	7-19	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Madeline-----	0-2	20-27	1.20-1.35	4.00-14.00	0.09-0.11	3.0-5.9	2.0-3.0	.15	.43	1	8	0
	2-6	25-40	1.25-1.45	1.40-4.00	0.14-0.16	3.0-5.9	1.0-2.0	.17	.37			
	6-19	35-60	1.20-1.35	0.42-1.40	0.14-0.16	6.0-8.9	1.0-2.0	.15	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Tinpan-----	0-2	20-27	1.20-1.25	4.00-14.00	0.04-0.08	0.0-2.9	2.0-3.0	.05	.37	2	8	0
	2-5	27-35	1.20-1.25	1.40-4.00	0.18-0.20	3.0-5.9	1.0-3.0	.37	.43			
	5-28	60-70	1.10-1.30	0.01-0.42	0.12-0.16	6.0-8.9	0.5-2.0	.24	.24			
	28-36	60-70	1.10-1.30	0.01-0.42	0.12-0.16	6.0-8.9	0.5-2.0	.24	.24			
	36-46	---	---	0.00-0.42	---	---	---	---	---			
480: Ninemile-----	0-7	15-25	1.35-1.50	4.00-14.00	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	7-19	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
Crocan-----	0-3	12-18	1.10-1.20	4.00-14.00	0.16-0.18	0.0-2.9	5.0-10	.10	.17	1	8	0
	3-5	33-40	1.15-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.32	.37			
	5-14	55-65	1.30-1.40	0.01-0.42	0.12-0.14	6.0-8.9	1.0-2.0	.20	.24			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
481: Ninemile-----	0-7	15-25	1.35-1.50	4.00-14.00	0.08-0.11	0.0-2.9	2.0-4.0	.15	.55	1	8	0
	7-19	40-60	1.25-1.45	0.01-0.42	0.14-0.16	6.0-8.9	1.0-3.0	.28	.37			
	19-29	---	---	0.00-0.42	---	---	---	---	---			
Westbutte-----	0-3	18-27	1.20-1.40	4.00-14.00	0.11-0.13	0.0-2.9	2.0-4.0	.20	.28	2	7	38
	3-22	18-30	1.25-1.45	4.00-14.00	0.07-0.10	0.0-2.9	1.0-3.0	.15	.32			
	22-28	18-30	1.30-1.60	4.00-14.00	0.07-0.10	3.0-5.9	1.0-2.0	.10	.37			
	28-38	---	---	0.00-0.42	---	---	---	---	---			
Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.15	.43	5	6	48
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
482: Nitpac-----	0-8	15-25	1.15-1.25	1.40-4.00	0.15-0.17	0.0-2.9	1.0-2.0	.10	.37	3	8	0
	8-21	45-60	1.15-1.25	0.01-0.42	0.15-0.17	6.0-8.9	0.5-1.0	.28	.28			
	21-26	35-45	1.15-1.25	0.01-0.42	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	26-34	---	---	0.00-1.40	---	---	---	---	---			
	34-44	---	---	0.00-1.40	---	---	---	---	---			
Tunnison-----	0-2	55-70	1.05-1.25	0.42-1.40	0.10-0.12	6.0-8.9	1.0-2.0	.10	.43	2	6	48
	2-27	60-70	1.10-1.30	0.42-1.40	0.10-0.12	6.0-8.9	0.0-0.5	.20	.20			
	27-30	---	---	0.00-1.40	---	---	---	---	---			
	30-40	---	---	0.00-0.42	---	---	---	---	---			
Bidrim-----	0-3	12-18	1.10-1.20	4.00-14.00	0.16-0.18	0.0-2.9	3.0-8.0	.10	.17	1	8	0
	3-8	33-40	1.15-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.32	.37			
	8-13	55-65	1.30-1.40	0.42-1.40	0.12-0.14	6.0-8.9	0.0-1.0	.20	.24			
	13-23	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
483:												
Nitpac-----	0-8	15-25	1.15-1.25	1.40-4.00	0.15-0.17	0.0-2.9	1.0-2.0	.10	.37	3	8	0
	8-21	45-60	1.15-1.25	0.01-0.42	0.15-0.17	6.0-8.9	0.5-1.0	.28	.28			
	21-26	35-45	1.15-1.25	0.01-0.42	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	26-34	---	---	0.00-1.40	---	---	---	---	---			
	34-44	---	---	0.00-1.40	---	---	---	---	---			
Tunnison-----	0-2	55-70	1.05-1.25	0.42-1.40	0.10-0.12	6.0-8.9	1.0-2.0	.10	.43	2	6	48
	2-27	60-70	1.10-1.30	0.42-1.40	0.10-0.12	6.0-8.9	0.0-0.5	.20	.20			
	27-30	---	---	0.00-1.40	---	---	---	---	---			
	30-40	---	---	0.00-0.42	---	---	---	---	---			
Devada-----	0-6	15-27	1.10-1.30	4.00-14.00	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	6-17	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	17-27	---	---	0.00-0.42	---	---	---	---	---			
484:												
Nomazu-----	0-7	8-18	1.40-1.50	14.00-42.00	0.15-0.18	0.0-3.0	0.2-0.5	.55	.55	5	2	134
	7-10	10-15	1.30-1.40	14.00-42.00	0.11-0.16	0.0-3.0	0.0-0.5	.32	.32			
	10-13	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.2	.32	.32			
	13-29	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.2	.32	.32			
	29-38	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
	38-48	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
	48-60	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
Macnot-----	0-1	5-10	1.35-1.50	14.00-42.00	0.05-0.10	0.0-2.9	1.0-2.0	.05	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00- 705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
485:												
Nomazu, moderately saline-----	0-7	8-18	1.40-1.50	14.00-42.00	0.15-0.18	0.0-3.0	0.2-0.5	.55	.55	5	2	134
	7-10	10-15	1.30-1.40	14.00-42.00	0.11-0.16	0.0-3.0	0.0-0.5	.32	.32			
	10-13	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.2	.32	.32			
	13-29	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.2	.32	.32			
	29-38	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
	38-48	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
	48-60	10-15	1.30-1.40	14.00-42.00	0.10-0.15	0.0-3.0	0.0-0.1	.32	.32			
Ragtown-----	0-10	10-15	1.40-1.55	4.00-14.00	0.13-0.15	0.0-2.9	0.5-1.0	.37	.43	5	3	86
	10-23	25-35	1.40-1.55	1.40-4.00	0.17-0.19	3.0-5.9	0.0-0.5	.28	.28			
	23-60	35-60	1.40-1.60	0.42-1.40	0.16-0.19	6.0-8.9	0.0-0.5	.32	.32			
486:												
Nopeg-----	0-5	12-18	1.45-1.60	14.00-42.00	0.12-0.14	0.0-2.9	0.1-0.5	.24	.28	2	2	134
	5-11	12-18	1.45-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.1-0.5	.24	.28			
	11-19	12-18	1.45-1.60	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.2	.24	.28			
	19-29	---	---	0.00-1.40	---	---	---	---	---			
Pegler-----	0-2	14-18	1.45-1.60	14.00-42.00	0.14-0.16	0.0-2.9	0.5-1.0	.32	.37	2	2	134
	2-10	18-27	1.30-1.50	4.00-14.00	0.15-0.18	3.0-5.9	0.1-0.5	.17	.20			
	10-20	---	---	0.00-1.40	---	---	---	---	---			
487:												
Nowack-----	0-1	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	10-15	.10	.24	4	5	56
	1-10	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-4.0	.10	.24			
	10-42	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-3.0	.15	.43			
	42-52	---	---	0.00-0.41	---	---	---	---	---			
488:												
Nowack-----	0-1	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	10-15	.10	.24	4	5	56
	1-10	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-4.0	.10	.24			
	10-42	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-3.0	.15	.43			
	42-52	---	---	0.00-0.41	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensibility	Organic matter	Erosion factors			Wind erodibility group	Wind erodibility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
489:												
Nowack-----	0-1	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	10-15	.10	.24	4	5	56
	1-10	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-4.0	.10	.24			
	10-42	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-3.0	.15	.43			
	42-52	---	---	0.00-0.41	---	---	---	---	---			
Fendersflat, cool----	0-7	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.17	.32	2	5	56
	7-25	18-25	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	25-35	---	---	0.00-1.40	---	---	---	---	---			
490:												
Nutzan-----	0-10	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	3	5	56
	10-17	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.24	.32			
	17-28	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.10	.32			
	28-36	10-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.05	.24			
	36-46	---	---	0.00-1.40	---	---	---	---	---			
Cavin-----	0-2	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	5	5	56
	2-11	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05			
	11-18	8-15	1.08-1.12	14.00-42.00	0.05-0.09	0.0-2.9	0.5-1.5	.05	.24			
	18-24	8-15	1.14-1.16	14.00-42.00	0.05-0.09	0.0-2.9	0.3-0.8	.05	.24			
	24-60	8-15	1.15-1.17	14.00-42.00	0.02-0.06	---	0.0-0.5	.05	.24			
Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
491:												
Nutzan-----	0-10	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	3	5	56
	10-17	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.24	.32			
	17-28	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.10	.32			
	28-36	10-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.05	.24			
	36-46	---	---	0.00-1.40	---	---	---	---	---			
Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Tusune-----	0-2	10-15	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	2.0-3.0	.32	.37	3	5	56
	2-10	15-20	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	1.0-2.0	.32	.37			
	10-38	25-30	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	38-48	---	---	0.00-1.40	---	---	---	---	---			
492:												
Nutzan-----	0-10	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	2.0-3.0	.02	.05	3	5	56
	10-17	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	1.0-2.0	.24	.32			
	17-28	10-18	1.10-1.15	14.00-42.00	0.16-0.19	0.0-2.9	0.5-1.0	.10	.32			
	28-36	10-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	0.0-0.5	.05	.24			
	36-46	---	---	0.00-1.40	---	---	---	---	---			
Tusune-----	0-2	10-15	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	2.0-3.0	.32	.37	3	5	56
	2-10	15-20	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	1.0-2.0	.32	.37			
	10-38	25-30	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	38-48	---	---	0.00-1.40	---	---	---	---	---			
Ashtre-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.15	.32	3	6	48
	2-11	15-25	1.10-1.15	4.00-14.00	0.19-0.21	0.0-2.9	1.0-3.0	.24	.32			
	11-26	27-35	1.20-1.30	1.40-4.00	0.21-0.22	3.0-5.9	0.0-2.0	.24	.32			
	26-60	---	---	0.00-1.40	---	---	---	---	---			
493:												
Observation-----	0-3	20-25	1.35-1.50	4.23-14.11	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	3-9	20-25	1.40-1.50	4.23-14.11	0.12-0.15	3.0-5.9	1.0-2.0	.32	.37			
	9-18	27-35	1.35-1.50	1.41-4.23	0.15-0.18	3.0-5.9	1.0-2.0	.24	.43			
	18-35	35-50	1.35-1.50	0.42-1.41	0.11-0.15	6.0-8.9	0.5-1.0	.15	.37			
	35-45	---	---	0.00-0.01	---	---	---	---	---			
Searles-----	0-13	20-27	1.30-1.50	4.23-14.11	0.10-0.15	0.0-2.9	1.0-2.0	.15	.43	2	8	0
	13-29	25-35	1.35-1.55	1.41-4.23	0.07-0.10	0.0-2.9	0.5-2.0	.10	.37			
	29-39	---	---	0.00-0.01	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Madeline-----	0-5	20-27	1.30-1.40	4.23-14.11	0.11-0.14	3.0-5.9	1.0-2.0	.20	.37	1	8	0
	5-9	35-60	1.25-1.35	0.42-1.41	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	9-16	35-60	1.25-1.35	0.42-1.41	0.10-0.13	6.0-8.9	0.5-1.0	.15	.37			
	16-29	---	---	0.00-0.07	---	---	---	---	---			
494:												
Old Camp-----	0-2	16-22	1.25-1.45	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.24	.43	1	6	48
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
495:												
Old Camp-----	0-2	8-20	1.35-1.50	14.00-42.00	0.08-0.10	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
496:												
Old Camp-----	0-2	10-20	1.25-1.45	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
497:												
Old Camp-----	0-2	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	6	48
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Ceejay-----												
	0-2	15-25	1.20-1.35	4.00-14.00	0.10-0.12	0.0-2.9	1.0-2.0	.15	.37	1	7	38
	2-16	35-45	1.15-1.30	0.42-1.40	0.13-0.15	6.0-8.9	0.0-0.5	.15	.28			
	16-26	---	---	0.00-0.42	---	---	---	---	---			
498:												
Old Camp-----	0-2	10-20	1.25-1.45	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Gorzell-----												
	0-8	10-20	1.25-1.50	4.00-14.00	0.10-0.12	0.0-2.9	1.0-1.5	.32	.55	3	6	48
	8-12	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.5-1.0	.20	.43			
	12-30	25-35	1.30-1.45	1.40-4.00	0.11-0.15	0.0-2.9	0.2-0.5	.20	.43			
	30-60	0-8	1.50-1.65	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Macnot-----												
	0-1	5-10	1.35-1.50	14.00-42.00	0.05-0.10	0.0-2.9	1.0-2.0	.05	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
499:												
Old Camp-----	0-2	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Mcwatt-----												
	0-10	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	3	6	48
	10-20	8-15	1.15-1.35	14.00-42.00	0.06-0.08	0.0-2.9	0.0-1.0	.05	.37			
	20-44	0-5	1.30-1.40	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.02	.15			
	44-54	---	---	0.00-0.42	---	---	---	---	---			
500:												
Old Camp-----	0-2	10-20	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Reywat-----												
	0-6	8-18	1.35-1.55	4.00-14.00	0.08-0.12	0.0-2.9	1.0-3.0	.15	.32	1	7	38
	6-18	24-35	1.35-1.55	1.40-4.00	0.10-0.14	3.0-5.9	0.0-1.0	.15	.32			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
Rubble land-----												
	0-60	0-0	1.70-2.35	141.00-705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
501: Old Camp-----	0-2	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	6	48
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Saraph-----	0-4	5-15	1.20-1.35	14.00-42.00	0.06-0.09	0.0-3.0	1.0-2.0	.05	.28	2	6	48
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
502: Old Camp-----	0-2	10-20	1.25-1.45	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Skedaddle-----	0-5	18-27	1.40-1.60	4.00-14.00	0.06-0.10	0.0-2.9	1.0-2.0	.28	.43	1	8	0
	5-11	12-22	1.35-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.17	.43			
	11-21	---	---	0.00-0.42	---	---	---	---	---			
503: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
504: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	1	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
Skidbrackle-----	0-4	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-2.0	.17	.32	1	5	56
	4-14	18-27	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
505: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	3	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
Fendersflat-----	0-7	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.17	.32	2	5	56
	7-25	18-25	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	25-35	---	---	0.00-1.40	---	---	---	---	---			
506: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	3	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
Fendersflat, cool----	0-7	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.17	.32	2	5	56
	7-25	18-25	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	25-35	---	---	0.00-1.40	---	---	---	---	---			
507: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	3	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
Fendersflat-----	0-7	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.17	.32	2	5	56
	7-25	18-25	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	25-35	---	---	0.00-1.40	---	---	---	---	---			
508: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	3	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Fendersflat-----	0-7	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-3.0	.17	.32	2	5	56
	7-25	18-25	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	25-35	---	---	0.00-1.40	---	---	---	---	---			
Pyropatti, cool-----	0-9	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	1	5	56
	9-20	12-18	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	20-30	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	30-48	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	48-58	---	---	0.00-0.41	---	---	---	---	---			
509: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
Fingerridge-----	0-6	8-18	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	6-13	15-20	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	13-23	---	---	0.00-0.41	---	---	---	---	---			
520: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
Pyropatti, cool-----	0-9	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	9-20	12-18	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	20-30	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	30-48	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	48-58	---	---	0.00-0.41	---	---	---	---	---			
Fingerridge-----	0-6	8-18	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	6-13	15-20	1.15-1.25	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	13-23	---	---	0.00-0.41	---	---	---	---	---			
521: Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
Skidbrackle-----	0-4	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-2.0	.17	.32	1	5	56
	4-14	18-27	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
522: Paypoint-----	0-5	3-10	1.30-1.40	4.00-14.00	0.11-0.15	0.0-2.9	1.0-2.0	.24	.32	2	5	56
	5-17	18-25	1.10-1.40	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.37			
	17-60	0-2	1.35-1.45	42.00-141.00	0.04-0.06	0.0-2.9	0.5-1.0	.10	.20			
Langston-----	0-3	5-10	1.40-1.55	4.00-14.00	0.08-0.10	0.0-2.9	1.0-2.0	.20	.32	2	5	56
	3-11	20-30	1.35-1.50	1.40-4.00	0.12-0.14	3.0-5.9	0.5-1.0	.17	.32			
	11-60	0-5	1.40-1.60	141.00- 705.00	0.02-0.04	0.0-2.9	0.0-0.5	.10	.15			
523: Pickup-----	0-8	18-25	1.15-1.35	1.40-4.00	0.08-0.12	0.0-2.9	1.0-2.0	.28	.43	2	8	0
	8-34	40-55	1.20-1.35	0.42-1.40	0.10-0.13	3.0-5.9	0.5-1.0	.10	.32			
	34-44	---	---	0.00-0.42	---	---	---	---	---			
Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
524: Pickup-----	0-8	18-25	1.15-1.35	1.40-4.00	0.08-0.12	0.0-2.9	1.0-2.0	.28	.43	2	8	0
	8-34	40-55	1.20-1.35	0.42-1.40	0.10-0.13	3.0-5.9	0.5-1.0	.10	.32			
	34-44	---	---	0.00-0.42	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Nosavvy-----	0-6	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.32	5	6	48
	6-29	20-25	1.25-1.35	4.00-14.00	0.11-0.15	3.0-6.0	0.4-1.0	.15	.20			
	29-36	8-18	1.20-1.35	14.00-42.00	0.06-0.09	0.0-3.0	0.1-0.5	.05	.28			
	36-63	8-15	1.20-1.35	14.00-42.00	0.10-0.13	0.0-3.0	0.0-0.2	.32	.43			
Skedaddle-----	0-5	18-27	1.40-1.60	4.00-14.00	0.06-0.10	0.0-2.9	1.0-2.0	.28	.43	1	8	0
	5-11	12-22	1.35-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.17	.43			
	11-21	---	---	0.00-0.42	---	---	---	---	---			
525: Pits, gravel-----	---	---	---	---	---	---	---	---	---	---	8	0
526: Pits, mine-----	0-60	---	---	0.00-0.42	---	---	---	---	---	---	---	---
Dumps, mine-----	---	---	---	---	---	---	---	---	---	---	---	---
527: Playas-----	0-6	35-40	1.50-1.70	0.01-0.42	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37	5	4L	86
	6-60	35-70	1.60-1.80	0.01-0.42	0.02-0.04	6.0-8.9	0.0-0.1	.37	.37			
528: Pyropatti, cool-----	0-9	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	1	5	56
	9-20	12-18	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	20-30	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	30-48	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	48-58	---	---	0.00-0.41	---	---	---	---	---			
Pyropatti-----	0-9	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	1	5	56
	9-20	12-18	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	20-30	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	30-48	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	48-58	---	---	0.00-0.41	---	---	---	---	---			
529: Raglan-----	0-2	10-20	1.30-1.50	4.00-14.00	0.15-0.17	0.0-2.9	0.5-1.0	.49	.49	5	3	86
	2-13	10-25	1.30-1.50	4.00-14.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			
	13-64	18-25	1.40-1.60	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.49	.49			
530: Raglan-----	0-3	10-20	1.30-1.50	4.00-14.00	0.15-0.17	0.0-2.9	0.5-1.0	.49	.49	5	3	86
	3-14	10-25	1.30-1.50	4.00-14.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			
	14-60	18-25	1.40-1.60	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.49	.49			
Crutcher-----	0-5	10-15	1.30-1.35	14.00-42.00	0.15-0.18	0.0-2.9	0.5-1.0	.55	.55	5	2	134
	5-15	12-18	1.35-1.40	14.00-42.00	0.18-0.20	0.0-2.9	0.1-0.5	.55	.55			
	15-22	18-27	1.35-1.40	14.00-42.00	0.18-0.20	3.0-5.9	0.0-0.2	.49	.49			
	22-43	18-27	1.35-1.40	14.00-42.00	0.16-0.18	3.0-5.9	0.0-0.2	.49	.49			
	43-74	25-35	1.35-1.40	14.00-42.00	0.19-0.21	3.0-5.9	0.0-0.2	.49	.49			
531: Raglan-----	0-3	10-20	1.30-1.50	4.00-14.00	0.15-0.17	0.0-2.9	0.5-1.0	.49	.49	5	3	86
	3-14	10-25	1.30-1.50	4.00-14.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			
	14-60	18-25	1.40-1.60	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.49	.49			
Isolde-----	0-7	0-5	1.40-1.60	141.00- 705.00	0.06-0.09	0.0-2.9	0.0-0.5	.17	.17	5	1	250
	7-60	0-5	1.50-1.70	141.00- 705.00	0.06-0.09	0.0-2.9	0.0-0.5	.17	.17			
532: Raglan-----	0-3	10-20	1.30-1.50	4.00-14.00	0.15-0.17	0.0-2.9	0.5-1.0	.49	.49	5	3	86
	3-14	10-25	1.30-1.50	4.00-14.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55			
	14-60	18-25	1.40-1.60	1.40-4.00	0.19-0.21	3.0-5.9	0.0-0.5	.49	.49			
Mazuma-----	0-6	8-12	1.40-1.55	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.5	.28	.32	5	3	86
	6-62	5-15	1.45-1.65	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.24	.37			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Marepas-----	0-0	---	0.20-0.40	14.00-42.00	---	---	50-75	---	---	4	5	56
	0-5	8-15	1.20-1.40	14.00-42.00	0.05-0.09	0.0-2.9	10-16	.02	.05			
	5-13	20-25	1.20-1.35	4.00-14.00	0.06-0.10	0.0-2.9	0.6-1.5	.10	.24			
	13-23	---	---	0.00-0.42	---	---	---	---	---			
541: Rubble land-----	0-60	0-0	1.70-2.35	141.14- 141.14	0.00-0.10	0.0-2.9	0.0-0.1	---	---	5	8	0
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
542: Rodock-----	0-2	8-15	1.40-1.60	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.17	.32	4	5	56
	2-20	15-25	1.40-1.60	4.00-14.00	0.11-0.18	0.0-2.9	0.5-2.0	.28	.43			
	20-27	8-15	1.45-1.65	1.40-4.00	0.05-0.12	0.0-2.9	0.5-1.0	.17	.32			
	27-60	0-5	1.45-1.65	14.00-42.00	0.03-0.06	0.0-2.9	0.0-0.5	.02	.20			
543: Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0
Dosie-----	0-5	15-25	1.20-1.30	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.15	.49	3	8	0
	5-41	35-50	1.10-1.30	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.10	.32			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Menbo-----	0-6	15-25	1.25-1.45	4.00-14.00	0.08-0.10	0.0-2.9	2.0-4.0	.15	.37	2	6	48
	6-26	35-50	1.35-1.55	0.42-1.40	0.06-0.10	6.0-8.9	1.0-2.0	.10	.37			
	26-36	---	---	0.00-0.42	---	---	---	---	---			
544: Rubble land-----	0-60	0-0	1.70-2.35	141.00- 705.00	0.00-0.10	0.0-2.9	0.0-0.1	---	---	---	8	0
Home Camp-----	0-3	10-20	1.20-1.40	4.23-14.11	0.14-0.16	0.0-2.9	2.0-4.0	.20	.37	3	6	48
	3-9	10-20	1.20-1.40	4.23-14.11	0.14-0.16	0.0-2.9	2.0-4.0	.20	.37			
	9-17	25-35	1.30-1.50	1.41-4.23	0.15-0.18	0.0-2.9	1.0-2.0	.10	.37			
	17-28	40-50	1.25-1.40	1.41-4.23	0.12-0.14	3.0-5.9	0.5-1.0	.05	.37			
	28-38	---	---	0.00-0.07	---	---	---	---	---			
545: Rubble land-----	---	---	---	---	---	---	---	---	---	---	---	---
Paynepeak-----	0-13	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	13-32	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	32-43	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	0.5-2.0	.15	.43			
	43-53	---	---	0.00-0.41	---	---	---	---	---			
546: Runyon-----	0-2	10-18	1.10-1.20	4.00-14.00	0.15-0.19	0.0-2.9	1.0-3.0	.15	.43	2	6	48
	2-5	10-18	1.10-1.20	4.00-14.00	0.15-0.19	0.0-2.9	1.0-3.0	.28	.32			
	5-25	20-30	1.15-1.23	4.00-14.00	0.15-0.19	0.0-2.9	0.5-3.0	.17	.28			
	25-37	25-35	1.15-1.23	4.00-14.00	0.15-0.19	0.0-2.9	0.5-3.0	.37	.55			
	37-72	---	---	0.00-0.42	---	---	---	---	---			
Hapgood-----	0-4	15-27	1.05-1.20	4.23-14.11	0.08-0.11	0.0-2.9	2.0-4.0	.17	.43	3	7	38
	4-41	18-27	1.25-1.45	4.23-14.11	0.07-0.10	0.0-2.9	0.5-2.0	.17	.43			
	41-51	---	---	0.00-0.07	---	---	---	---	---			
547: Saltmount-----	0-2	27-40	1.21-1.29	4.00-14.00	0.01-0.05	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	2-20	60-70	1.15-1.25	4.00-14.00	0.01-0.05	0.0-2.9	0.0-0.2	.55	.55			
	20-60	60-70	1.15-1.25	4.00-14.00	0.01-0.02	0.0-2.9	0.0-0.1	.55	.55			
Saltmount-----	0-2	27-40	1.21-1.29	4.00-14.00	0.01-0.05	0.0-2.9	0.0-0.5	.55	.55	5	4L	86
	2-20	60-70	1.15-1.25	4.00-14.00	0.01-0.05	0.0-2.9	0.0-0.2	.55	.55			
	20-60	60-70	1.15-1.25	4.00-14.00	0.01-0.02	0.0-2.9	0.0-0.1	.55	.55			
548: Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Ashcamp-----	0-3	8-15	1.10-1.15	14.00-42.00	0.14-0.16	0.0-2.9	1.0-2.0	.20	.28	2	2	134
	3-7	12-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	1.0-2.0	.24	.32			
	7-23	---	---	0.00-1.40	---	---	---	---	---			
Bitner-----	0-7	8-15	1.10-1.15	14.00-42.00	0.14-0.16	0.0-2.9	1.0-3.0	.17	.28	3	5	56
	7-13	12-18	1.10-1.15	14.00-42.00	0.13-0.16	0.0-2.9	1.0-2.0	.20	.32			
	13-27	12-18	1.10-1.20	14.00-42.00	0.13-0.16	0.0-2.9	0.5-1.0	.20	.32			
	27-37	---	---	0.00-1.40	---	---	---	---	---			
549: Bombadil-----	0-2	10-18	1.35-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-1.5	.24	.37	1	5	56
	2-6	18-27	1.25-1.45	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.49			
	6-10	25-35	1.25-1.45	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.28	.43			
	10-24	---	---	0.00-0.42	---	---	---	---	---			
Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Macnot, nearly level-	0-1	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
550: Saraph-----	0-4	5-15	1.20-1.35	14.00-42.00	0.06-0.09	0.0-3.0	1.0-2.0	.05	.28	2	6	48
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Chalco-----	0-3	10-20	1.25-1.45	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.17	.43	1	7	38
	3-15	40-60	1.25-1.45	0.01-0.42	0.12-0.15	6.0-8.9	0.0-0.5	.24	.32			
	15-30	---	---	0.00-1.40	---	---	---	---	---			
551: Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Chalco-----	0-3	10-15	1.20-1.35	4.00-14.00	0.08-0.09	0.0-2.9	1.0-2.0	.10	.37	2	7	38
	3-15	40-60	1.25-1.45	0.01-0.42	0.12-0.15	6.0-8.9	0.0-0.5	.24	.28			
	15-30	---	---	0.00-1.40	---	---	---	---	---			
Bombadil-----	0-2	10-18	1.35-1.45	4.00-14.00	0.10-0.13	0.0-2.9	1.0-1.5	.24	.37	1	5	56
	2-6	18-27	1.25-1.45	1.40-4.00	0.15-0.17	3.0-5.9	1.0-2.0	.32	.49			
	6-10	25-35	1.25-1.45	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.28	.43			
	10-24	---	---	0.00-0.42	---	---	---	---	---			
552: Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Hangrock-----	0-4	12-20	1.10-1.20	4.00-14.00	0.11-0.13	0.0-2.9	1.0-2.0	.10	.32	2	6	48
	4-17	25-35	1.15-1.25	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.17	.28			
	17-60	---	---	0.00-1.40	---	---	---	---	---			
Tuffo-----	0-1	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.15	.32	1	5	56
	1-8	5-15	1.35-1.55	14.00-42.00	0.13-0.16	0.0-2.9	0.0-1.0	.24	.37			
	8-30	---	---	0.00-1.40	---	---	---	---	---			
553: Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Macnot, nearly level-	0-1	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32	5	5	56
	1-6	8-15	1.35-1.50	14.00-42.00	0.09-0.12	0.0-2.9	0.0-0.5	.17	.32			
	6-16	5-10	1.45-1.55	14.00-42.00	0.05-0.10	0.0-2.9	0.0-0.3	.05	.32			
	16-24	4-7	1.50-1.65	42.00-141.00	0.03-0.06	0.0-2.9	0.0-0.3	.05	.15			
	24-60	0-5	1.50-1.65	141.00-705.00	0.03-0.05	0.0-2.9	0.0-0.2	.02	.15			
Tuffo-----	0-1	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.15	.32	1	5	56
	1-8	5-15	1.35-1.55	14.00-42.00	0.13-0.16	0.0-2.9	0.0-1.0	.24	.37			
	8-30	---	---	0.01-0.42	---	---	---	---	---			
554: Saraph-----	0-4	10-15	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	1.0-3.0	.32	.37	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Nosavvy-----	0-6	8-15	1.40-1.50	14.00-42.00	0.09-0.12	0.0-2.9	1.0-2.0	.17	.32	5	6	48
	6-29	20-25	1.25-1.35	4.00-14.00	0.11-0.15	3.0-6.0	0.4-1.0	.15	.20			
	29-36	8-18	1.20-1.35	14.00-42.00	0.06-0.09	0.0-3.0	0.1-0.5	.05	.28			
	36-63	8-15	1.20-1.35	14.00-42.00	0.10-0.13	0.0-3.0	0.0-0.2	.32	.43			
Tuffo-----	0-1	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.15	.32	1	5	56
	1-8	5-15	1.35-1.55	14.00-42.00	0.13-0.16	0.0-2.9	0.0-1.0	.24	.37			
	8-30	---	---	0.01-0.42	---	---	---	---	---			
555: Saraph-----	0-4	5-15	1.20-1.35	14.00-42.00	0.06-0.09	0.0-3.0	1.0-2.0	.05	.28	2	6	48
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Old Camp-----	0-2	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	6	48
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
Skedaddle-----	0-2	12-18	1.35-1.50	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	1	5	56
	2-10	18-32	1.35-1.50	14.00-42.00	0.07-0.12	0.0-2.9	0.4-1.0	.15	.37			
	10-20	---	---	0.00-0.42	---	---	---	---	---			
556: Saraph-----	0-4	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-2.0	.15	.32	2	5	56
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Tuffo-----	0-1	5-15	1.40-1.55	14.00-42.00	0.07-0.09	0.0-2.9	1.0-3.0	.15	.32	1	5	56
	1-8	5-15	1.35-1.55	14.00-42.00	0.13-0.16	0.0-2.9	0.0-1.0	.24	.37			
	8-30	---	---	0.01-0.42	---	---	---	---	---			
Old Camp-----	0-2	10-18	1.30-1.45	4.00-14.00	0.08-0.12	0.0-2.9	1.0-2.0	.17	.43	1	6	48
	2-14	27-35	1.30-1.50	1.40-4.00	0.08-0.11	0.0-2.9	0.5-1.0	.15	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
557: Saraph-----	0-4	0-10	1.10-1.30	14.00-42.00	0.06-0.08	0.0-2.9	0.5-1.0	.20	.24	2	1	160
	4-9	15-25	1.05-1.20	4.00-14.00	0.12-0.16	3.0-5.9	0.0-0.5	.32	.37			
	9-16	20-35	1.10-1.25	1.40-4.00	0.15-0.18	3.0-5.9	0.0-0.5	.28	.32			
	16-30	---	---	0.00-1.40	---	---	---	---	---			
Tuffo-----	0-1	5-15	1.40-1.55	14.00-42.00	0.12-0.15	0.0-2.9	1.0-3.0	.24	.32	1	2	134
	1-8	5-15	1.35-1.55	14.00-42.00	0.13-0.16	0.0-2.9	0.0-1.0	.24	.37			
	8-18	---	---	0.00-1.40	---	---	---	---	---			
Yellowhills-----	0-17	5-12	0.85-1.05	14.00-42.00	0.20-0.25	0.0-2.9	2.0-4.0	.37	.37	5	2	134
	17-37	8-15	0.90-1.10	14.00-42.00	0.20-0.25	0.0-2.9	0.0-1.0	.37	.37			
	37-60	8-15	0.90-1.10	14.00-42.00	0.20-0.25	0.0-2.9	0.0-1.0	.37	.37			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
558: Schamp-----	0-5	15-27	1.30-1.40	4.00-14.00	0.13-0.16	0.0-2.9	1.0-2.0	.37	.37	4	6	48
	5-8	27-30	1.30-1.40	1.40-4.00	0.16-0.18	3.0-5.9	0.5-1.0	.32	.43			
	8-32	35-60	1.20-1.30	0.42-1.40	0.14-0.16	6.0-8.9	0.0-0.5	.28	.37			
	32-43	15-25	1.30-1.45	1.40-4.00	0.13-0.17	3.0-5.9	0.0-0.5	.24	.37			
	43-60	10-25	1.50-1.60	14.00-42.00	0.04-0.04	0.0-2.9	0.0-0.5	.15	.32			
559: Schamp-----	0-5	15-20	1.30-1.40	4.00-14.00	0.12-0.14	0.0-2.9	1.0-2.0	.15	.37	5	6	48
	5-8	27-30	1.30-1.40	1.40-4.00	0.16-0.18	3.0-5.9	1.0-2.0	.37	.43			
	8-32	35-60	1.20-1.30	1.40-4.00	0.14-0.16	6.0-8.9	0.0-0.5	.28	.37			
	32-43	15-25	1.30-1.45	1.40-4.00	0.13-0.17	3.0-5.9	0.0-1.0	.24	.37			
	43-60	10-25	1.50-1.60	14.00-42.00	0.04-0.06	0.0-2.9	0.0-0.5	.15	.37			
560: Sedsked-----	0-3	20-25	1.37-1.41	4.00-14.00	0.04-0.06	3.0-5.9	1.0-2.0	.05	.37	1	8	0
	3-11	24-35	1.43-1.48	4.00-14.00	0.05-0.10	3.0-5.9	0.2-0.7	.10	.32			
	11-21	---	---	0.00-0.42	---	---	---	---	---			
Skedaddle-----	0-5	18-27	1.40-1.60	4.00-14.00	0.06-0.10	0.0-2.9	1.0-2.0	.28	.43	1	8	0
	5-11	12-22	1.35-1.50	14.00-42.00	0.08-0.10	0.0-2.9	0.5-1.0	.17	.43			
	11-21	---	---	0.00-0.42	---	---	---	---	---			
561: Simpson-----	0-3	10-20	1.40-1.50	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.24	.32	3	5	56
	3-23	35-50	1.35-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-2.0	.28	.37			
	23-37	5-10	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.9	0.5-1.0	.20	.20			
	37-48	0-5	1.55-1.70	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.05	.20			
562: Simpson-----	0-3	10-20	1.40-1.50	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.24	.32	3	5	56
	3-23	35-50	1.35-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-2.0	.28	.37			
	23-37	5-10	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.9	0.5-1.0	.20	.20			
	37-48	0-5	1.55-1.70	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.05	.20			
563: Simpson-----	0-4	10-20	1.40-1.50	14.00-42.00	0.11-0.13	0.0-2.9	1.0-2.0	.24	.32	3	2	134
	4-23	35-50	1.35-1.45	0.42-1.40	0.14-0.16	6.0-8.9	0.5-2.0	.28	.37			
	23-37	5-10	1.50-1.60	14.00-42.00	0.09-0.13	0.0-2.9	0.5-1.0	.20	.20			
	37-48	0-5	1.55-1.70	42.00-141.00	0.02-0.04	0.0-2.9	0.0-0.5	.05	.20			
564: Skullwak-----	0-5	18-27	1.45-1.60	4.00-14.00	0.19-0.21	3.0-5.9	0.0-0.5	.55	.55	5	4L	86
	5-60	35-45	1.25-1.45	0.01-0.42	0.19-0.21	6.0-8.9	0.0-0.5	.43	.43			
565: Snag-----	0-4	8-15	1.05-1.08	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.10	.43	3	6	48
	4-30	8-15	1.08-1.12	4.00-14.00	0.09-0.11	0.0-2.9	1.0-2.0	.10	.32			
	30-62	18-24	1.12-1.15	4.00-14.00	0.06-0.10	0.0-2.9	0.5-1.0	.10	.24			
Brownsbowl-----	0-10	6-8	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	2.0-3.0	.32	.24	5	5	56
	10-28	6-10	1.08-1.15	14.00-42.00	0.10-0.13	0.0-2.9	1.0-2.0	.32	.20			
	28-34	6-10	1.10-1.15	14.00-42.00	0.10-0.12	0.0-2.9	1.0-2.0	.32	.17			
	34-41	7-8	1.10-1.15	14.00-42.00	0.07-0.10	0.0-2.9	1.0-2.0	.32	.15			
	41-61	5-7	1.10-1.15	14.00-42.00	0.07-0.11	0.0-2.9	0.5-0.8	.32	.05			
Hashwoods-----	0-15	5-15	1.05-1.10	14.00-42.00	0.13-0.15	0.0-2.9	3.0-5.0	.32	.28	4	2	134
	15-31	5-15	1.07-1.10	14.00-42.00	0.10-0.13	0.0-2.9	2.0-4.0	.32	.10			
	31-48	12-18	1.10-1.20	14.00-42.00	0.10-0.12	0.0-2.9	1.0-3.0	.32	.15			
	48-59	---	---	0.00-0.01	---	---	---	---	---			
566: Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
567: Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Dosie-----	0-5	15-25	1.20-1.30	4.00-14.00	0.09-0.11	0.0-2.9	1.0-3.0	.15	.49	3	8	0
	5-41	35-50	1.10-1.30	0.42-1.40	0.10-0.12	3.0-5.9	1.0-2.0	.10	.32			
	41-51	---	---	0.00-0.42	---	---	---	---	---			
Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
568: Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-3.0	.15	.43	5	6	48
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
Hart Camp-----	0-3	10-17	1.30-1.45	4.00-14.00	0.13-0.15	0.0-2.9	2.0-4.0	.20	.43	2	6	48
	3-13	20-35	1.35-1.50	1.40-4.00	0.17-0.19	3.0-5.9	1.0-2.0	.24	.49			
	13-23	---	---	0.00-1.40	---	---	---	---	---			
569: Softscrabble-----	0-20	10-20	1.20-1.40	4.00-14.00	0.08-0.10	0.0-2.9	1.0-5.0	.15	.43	5	7	38
	20-32	27-35	1.25-1.45	1.40-4.00	0.08-0.10	3.0-5.9	1.0-2.0	.20	.43			
	32-61	25-40	1.35-1.55	0.42-1.40	0.16-0.19	3.0-5.9	0.5-1.0	.32	.43			
	61-71	---	---	0.00-1.40	---	---	---	---	---			
Sumine-----	0-6	15-20	1.20-1.40	4.00-14.00	0.12-0.14	0.0-2.9	2.0-5.0	.28	.32	2	6	48
	6-28	25-35	1.40-1.60	4.00-14.00	0.10-0.13	0.0-2.9	0.5-3.0	.15	.55			
	28-32	---	---	0.00-0.42	---	---	---	---	---			
Hutchley-----	0-6	12-18	1.30-1.50	14.00-42.00	0.07-0.09	0.0-2.9	2.0-4.0	.05	.17	1	6	48
	6-14	24-35	1.40-1.50	1.40-14.00	0.07-0.11	3.0-5.9	0.5-2.0	.10	.43			
	14-24	---	---	0.00-0.42	---	---	---	---	---			
570: Soughe-----	0-4	10-20	1.35-1.50	4.00-14.00	0.09-0.12	0.0-2.9	1.0-2.0	.15	.55	1	7	38
	4-17	25-35	1.30-1.50	1.40-4.00	0.08-0.11	3.0-5.9	0.5-1.0	.15	.37			
	17-27	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
571: Soughe-----	0-4	10-20	1.35-1.50	4.00-14.00	0.09-0.12	0.0-2.9	1.0-2.0	.15	.55	1	7	38
	4-17	25-35	1.30-1.50	1.40-4.00	0.08-0.11	3.0-5.9	0.5-1.0	.15	.37			
	17-27	---	---	0.00-0.01	---	---	---	---	---			
Rock outcrop-----	---	---	---	0.00-0.42	---	---	---	---	---	---	---	---
572: Steerlake-----	0-3	18-25	1.20-1.25	4.00-14.00	0.10-0.13	3.0-5.9	2.0-3.0	.15	.43	4	8	0
	3-6	27-35	1.30-1.40	1.40-44.00	0.15-0.18	3.0-5.9	1.5-2.5	.37	.55			
	6-31	45-55	1.29-1.49	0.42-1.40	0.12-0.16	6.0-8.9	0.5-1.5	.24	.32			
	31-48	20-27	1.50-1.55	0.42-1.40	0.14-0.16	6.0-8.9	0.1-0.3	.55	.55			
	48-60	---	---	0.00-1.40	---	---	---	---	---			
Reywat-----	0-6	8-18	1.35-1.55	4.00-14.00	0.08-0.12	0.0-2.9	1.0-3.0	.15	.32	1	7	38
	6-18	24-35	1.35-1.55	1.40-4.00	0.10-0.14	3.0-5.9	0.0-1.0	.15	.32			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
573: Steerlake-----	0-3	18-25	1.20-1.25	4.00-14.00	0.10-0.13	3.0-5.9	2.0-3.0	.15	.43	4	8	0
	3-6	27-35	1.30-1.40	1.40-44.00	0.15-0.18	3.0-5.9	1.5-2.5	.37	.55			
	6-31	45-55	1.29-1.49	0.42-1.40	0.12-0.16	6.0-8.9	0.5-1.5	.24	.32			
	31-48	20-27	1.50-1.55	0.42-1.40	0.14-0.16	6.0-8.9	0.1-0.3	.55	.55			
	48-60	---	---	0.00-1.40	---	---	---	---	---			
Wylo-----	0-4	18-27	1.20-1.30	1.40-4.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	4-15	35-50	1.10-1.30	0.42-1.40	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
574: Surprise-----	0-9	3-12	1.45-1.55	14.00-42.00	0.06-0.10	0.0-2.9	1.0-3.0	.10	.20	5	5	56
	9-28	10-18	1.50-1.60	14.00-42.00	0.09-0.12	0.0-2.9	0.5-1.0	.20	.24			
	28-57	10-18	1.50-1.60	14.00-42.00	0.09-0.12	0.0-2.9	0.5-1.0	.20	.24			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
575: Surprise-----	0-9	3-12	1.45-1.55	14.00-42.00	0.06-0.10	0.0-2.9	1.0-3.0	.10	.20	5	5	56
	9-28	10-18	1.50-1.60	14.00-42.00	0.09-0.12	0.0-2.9	0.5-1.0	.20	.24			
	28-57	10-18	1.50-1.60	14.00-42.00	0.09-0.12	0.0-2.9	0.5-1.0	.20	.24			
576: Tuledad-----	0-1	23-27	1.35-1.45	4.00-14.00	0.04-0.08	0.0-2.9	1.0-2.0	.05	.37	2	8	0
	1-3	27-35	1.35-1.45	1.40-4.00	0.18-0.20	3.0-5.9	0.7-1.0	.37	.43			
	3-15	40-60	1.25-1.45	0.42-1.40	0.12-0.15	6.0-8.9	0.2-0.5	.20	.20			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
Nitpac-----	0-8	15-25	1.15-1.25	1.40-4.00	0.15-0.17	0.0-2.9	1.0-2.0	.10	.37	3	8	0
	8-21	45-60	1.15-1.25	0.01-0.42	0.15-0.17	6.0-8.9	0.5-1.0	.28	.28			
	21-26	35-45	1.15-1.25	0.01-0.42	0.14-0.16	6.0-8.9	0.5-1.0	.28	.28			
	26-34	---	---	0.00-1.40	---	---	---	---	---			
	34-44	---	---	0.00-1.40	---	---	---	---	---			
Bidrim-----	0-3	12-18	1.10-1.20	4.00-14.00	0.16-0.18	0.0-2.9	3.0-8.0	.10	.17	1	8	0
	3-8	33-40	1.15-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.32	.37			
	8-13	55-65	1.30-1.40	0.42-1.40	0.12-0.14	6.0-8.9	0.0-1.0	.20	.24			
	13-23	---	---	0.00-0.42	---	---	---	---	---			
577: Tunnison-----	0-2	55-70	1.05-1.25	0.42-1.40	0.10-0.12	6.0-8.9	1.0-2.0	.10	.43	2	6	48
	2-27	60-70	1.10-1.30	0.42-1.40	0.10-0.12	6.0-8.9	0.0-0.5	.20	.20			
	27-30	---	---	0.00-1.40	---	---	---	---	---			
	30-40	---	---	0.00-0.42	---	---	---	---	---			
Devada-----	0-6	15-27	1.10-1.30	4.00-14.00	0.07-0.09	3.0-5.9	1.0-3.0	.15	.37	1	8	0
	6-17	40-60	1.20-1.40	0.42-1.40	0.14-0.16	6.0-8.9	0.8-2.0	.17	.32			
	17-27	---	---	0.00-0.42	---	---	---	---	---			
Bidrim-----	0-3	12-18	1.10-1.20	4.00-14.00	0.16-0.18	0.0-2.9	3.0-8.0	.10	.17	1	8	0
	3-8	33-40	1.15-1.25	1.40-4.00	0.19-0.21	3.0-5.9	1.0-3.0	.32	.37			
	8-13	55-65	1.30-1.40	0.42-1.40	0.12-0.14	6.0-8.9	0.0-1.0	.20	.24			
	13-23	---	---	0.00-0.42	---	---	---	---	---			
578: Tunnison-----	0-2	55-70	1.05-1.25	0.42-1.40	0.10-0.12	6.0-8.9	1.0-2.0	.10	.43	2	6	48
	2-27	60-70	1.10-1.30	0.42-1.40	0.10-0.12	6.0-8.9	0.0-0.5	.20	.20			
	27-30	---	---	0.00-1.40	---	---	---	---	---			
	30-40	---	---	0.00-0.42	---	---	---	---	---			
Tuledad-----	0-1	23-27	1.35-1.45	4.00-14.00	0.04-0.08	0.0-2.9	1.0-2.0	.05	.37	2	8	0
	1-3	27-35	1.35-1.45	1.40-4.00	0.18-0.20	3.0-5.9	0.7-1.0	.37	.43			
	3-15	40-60	1.25-1.45	0.42-1.40	0.12-0.15	6.0-8.9	0.2-0.5	.20	.20			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
579: Tusune-----	0-2	10-15	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	2.0-3.0	.32	.37	3	5	56
	2-10	15-20	1.10-1.15	4.00-14.00	0.17-0.19	0.0-2.9	1.0-2.0	.32	.37			
	10-38	25-30	1.10-1.15	4.00-14.00	0.19-0.21	3.0-5.9	0.5-2.0	.20	.37			
	38-48	---	---	0.00-1.40	---	---	---	---	---			
Hartig-----	0-10	7-18	1.35-1.55	4.00-14.00	0.04-0.08	0.0-2.9	1.0-2.0	.10	.37	3	5	56
	10-21	12-20	1.40-1.60	4.00-14.00	0.04-0.09	0.0-2.9	0.5-1.0	.15	.37			
	21-42	10-18	1.40-1.60	4.00-14.00	0.04-0.09	0.0-2.9	0.5-1.0	.15	.37			
	42-52	---	---	0.00-0.42	---	---	---	---	---			
580: Updike-----	0-4	10-20	1.35-1.55	0.42-1.40	0.19-0.21	0.0-2.9	0.5-1.0	.43	.43	2	4L	86
	4-36	35-50	1.30-1.45	0.01-0.42	0.15-0.17	6.0-8.9	0.0-0.5	.49	.49			
	36-60	30-45	1.35-1.55	0.42-1.40	0.14-0.17	6.0-8.9	0.0-0.5	.24	.24			
Longdis-----	0-5	27-35	1.25-1.40	1.40-4.00	0.17-0.18	3.0-5.9	1.0-2.0	.43	.43	2	4	86
	5-26	40-50	1.20-1.35	0.42-1.40	0.15-0.17	6.0-8.9	0.5-1.0	.37	.37			
	26-45	35-50	1.30-1.50	0.42-1.40	0.17-0.18	6.0-8.9	0.0-0.5	.49	.49			
	45-61	35-45	1.30-1.45	0.42-1.40	0.15-0.17	6.0-8.9	0.0-0.5	.37	.37			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
581: Updike-----	0-4	10-20	1.35-1.55	0.42-1.40	0.19-0.21	0.0-2.9	0.5-1.0	.43	.43	2	4L	86
	4-36	35-50	1.30-1.45	0.01-0.42	0.15-0.17	6.0-8.9	0.0-0.5	.49	.49			
	36-60	30-45	1.35-1.55	0.42-1.40	0.14-0.17	6.0-8.9	0.0-0.5	.24	.24			
Mazuma-----	0-6	8-12	1.40-1.55	14.00-42.00	0.12-0.14	0.0-2.9	0.0-0.5	.28	.32	5	3	86
	6-62	5-15	1.45-1.65	14.00-42.00	0.10-0.14	0.0-2.9	0.0-0.5	.24	.37			
582: Valmy-----	0-2	5-15	1.35-1.55	14.00-42.00	0.13-0.15	0.0-2.9	0.5-1.0	.32	.37	4	3	86
	2-53	5-15	1.40-1.55	14.00-42.00	0.09-0.13	0.0-2.9	0.0-0.5	.28	.37			
	53-60	1-5	1.30-1.50	42.00-141.00	0.04-0.06	0.0-2.9	0.0-0.5	.05	.15			
583: Warnermount, warm----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	2-10	18-27	1.35-1.50	4.23-14.11	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37			
	10-33	22-35	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	33-43	---	---	0.00-0.42	---	---	---	---	---			
584: Warnermount-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	2-10	18-27	1.35-1.50	4.23-14.11	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37			
	10-33	22-35	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	33-43	---	---	0.00-0.42	---	---	---	---	---			
Burningman-----	0-3	14-18	1.15-1.17	14.00-42.00	0.04-0.08	---	1.0-2.0	.05	.24	1	8	0
	3-8	18-27	1.15-1.30	4.00-14.00	0.14-0.15	3.0-5.9	1.0-2.0	.15	.28			
	8-18	35-50	1.25-1.45	0.02-0.42	0.16-0.18	6.0-8.9	1.0-2.0	.28	.37			
	18-28	---	---	0.00-0.42	---	---	---	---	---			
585: Warnermount-----	0-2	10-15	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	2.0-4.0	.17	.32	4	5	56
	2-10	18-27	1.35-1.50	4.23-14.11	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37			
	10-33	22-35	1.20-1.30	4.00-14.00	0.13-0.15	0.0-2.9	1.0-2.0	.15	.37			
	33-43	---	---	0.00-0.42	---	---	---	---	---			
Crazybird-----	0-3	8-16	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	2.0-4.0	.10	.24	1	5	56
	3-15	18-27	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	15-25	---	---	0.00-1.40	---	---	---	---	---			
587: Weezweed-----	0-16	15-25	1.10-1.15	4.00-14.00	0.20-0.22	3.0-5.9	2.0-4.0	.32	.32	5	5	56
	16-60	18-27	1.20-1.30	1.40-4.00	0.18-0.20	3.0-5.9	0.5-2.0	.32	.32			
Emagert-----	0-14	15-25	1.10-1.15	4.00-14.00	0.20-0.22	3.0-5.9	2.0-4.0	.28	.32	5	5	56
	14-38	18-27	1.10-1.20	1.40-4.00	0.20-0.22	3.0-5.9	1.0-2.0	.28	.32			
	38-60	15-25	1.20-1.30	1.40-4.00	0.18-0.20	3.0-5.9	0.0-2.0	.28	.32			
Wetvit-----	0-16	15-20	1.10-1.15	4.00-14.00	0.15-0.17	0.0-2.9	2.0-4.0	.28	.28	5	2	134
	16-44	18-27	1.10-1.20	1.40-4.00	0.20-0.22	3.0-5.9	1.0-2.0	.32	.32			
	44-60	15-25	1.20-1.30	1.40-4.00	0.18-0.20	3.0-5.9	0.5-2.0	.32	.32			
588: Weimer-----	0-7	50-75	1.05-1.25	0.01-0.42	0.14-0.16	9.0-25.0	3.0-6.0	.24	.24	5	4	86
	7-48	60-75	1.25-1.45	0.01-0.42	0.14-0.16	9.0-25.0	2.0-4.0	.24	.24			
	48-60	50-75	1.25-1.45	0.01-0.42	0.14-0.16	9.0-25.0	1.0-3.0	.24	.24			
589: Weimer-----	0-7	50-75	1.05-1.25	0.01-0.42	0.14-0.16	9.0-25.0	3.0-6.0	.24	.24	5	4	86
	7-48	60-75	1.25-1.45	0.01-0.42	0.14-0.16	9.0-25.0	2.0-4.0	.24	.24			
	48-60	50-75	1.25-1.45	0.01-0.42	0.14-0.16	9.0-25.0	1.0-3.0	.24	.24			
Boulder Lake-----	0-2	40-60	1.20-1.30	0.01-0.42	0.14-0.15	6.0-8.9	1.0-2.0	.20	.20	5	4	86
	2-60	40-60	1.20-1.40	0.01-0.42	0.14-0.15	6.0-8.9	0.5-1.0	.20	.20			
590: Weimer-----	0-7	50-75	1.05-1.25	0.01-0.42	0.14-0.16	9.0-25.0	3.0-6.0	.24	.24	5	4	86
	7-48	60-75	1.25-1.45	0.01-0.42	0.14-0.16	9.0-25.0	2.0-4.0	.24	.24			
	48-60	50-75	1.25-1.45	0.01-0.42	0.14-0.16	9.0-25.0	1.0-3.0	.24	.24			

TABLE 14.--Physical Soil Properties

Map symbol and soil name	Depth	Clay	Moist bulk density	Saturated hydraulic conductivity	Available water capacity	Linear extensi- bility	Organic matter	Erosion factors			Wind erodi- bility group	Wind erodi- bility index
								Kw	Kf	T		
	In	Pct	g/cc	um/sec	In/in	Pct	Pct					
Grimlake-----	0-2	40-60	1.23-1.26	0.42-1.40	0.11-0.14	6.0-8.9	2.0-3.0	.20	.32	4	5	56
	2-5	40-60	1.23-1.25	0.42-1.41	0.14-0.16	6.0-8.9	2.0-3.0	.32	.32			
	5-14	40-60	1.23-1.49	0.42-1.41	0.14-0.16	6.0-8.9	1.5-2.5	.32	.32			
	14-32	40-60	1.36-1.57	0.42-1.41	0.14-0.16	6.0-8.9	0.5-2.0	.32	.32			
	32-43	30-39	1.30-1.55	1.40-4.00	0.15-0.17	6.0-8.9	0.0-0.3	.32	.32			
	43-60	30-39	1.30-1.55	1.40-4.00	0.07-0.11	6.0-8.9	0.0-0.1	.10	.32			
591: Welch-----	0-5	27-35	1.30-1.50	1.40-4.00	0.19-0.21	3.0-5.9	2.0-4.0	.32	.32	5	6	48
	5-60	27-35	1.20-1.55	1.40-4.00	0.16-0.21	3.0-5.9	0.5-3.0	.28	.32			
592: Welltomas-----	0-2	8-18	1.15-1.25	14.00-42.00	0.14-0.18	0.0-2.9	1.0-2.0	.10	.24	1	6	48
	2-7	18-30	1.20-1.30	4.00-14.00	0.15-0.17	3.0-5.9	1.0-2.0	.15	.43			
	7-17	---	---	0.00-0.42	---	---	---	---	---			
Hartner-----	0-1	8-15	1.05-1.10	14.00-42.00	0.05-0.09	0.0-2.9	1.0-2.0	.02	.05	1	5	56
	1-4	10-18	1.10-1.15	4.00-14.00	0.18-0.20	0.0-2.9	0.5-0.8	.17	.32			
	4-14	---	---	0.00-1.40	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	---
593: Wylo-----	0-4	18-27	1.20-1.30	1.40-4.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	4-15	35-50	1.10-1.30	0.42-1.40	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
Bucklake-----	0-8	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	8-12	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	12-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
Rock outcrop-----	---	---	---	---	---	---	---	---	---	---	---	
594: Wylo-----	0-4	18-27	1.20-1.30	1.40-4.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	4-15	35-50	1.10-1.30	0.42-1.40	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
Chalco-----	0-3	10-15	1.20-1.35	4.00-14.00	0.08-0.09	0.0-2.9	1.0-2.0	.10	.37	2	7	38
	3-15	40-60	1.25-1.45	0.01-0.42	0.12-0.15	6.0-8.9	0.0-0.5	.24	.28			
	15-30	---	---	0.00-1.40	---	---	---	---	---			
595: Wylo-----	0-4	18-27	1.20-1.30	1.40-4.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	4-15	35-50	1.10-1.30	0.42-1.40	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
Pickup-----	0-8	18-25	1.15-1.35	1.40-4.00	0.08-0.12	0.0-2.9	1.0-2.0	.28	.43	2	8	0
	8-34	40-55	1.20-1.35	0.42-1.40	0.10-0.13	3.0-5.9	0.5-1.0	.10	.32			
	34-44	---	---	0.00-0.42	---	---	---	---	---			
596: Wylo-----	0-4	18-27	1.20-1.30	1.40-4.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	4-15	35-50	1.10-1.30	0.42-1.40	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-25	---	---	0.00-0.42	---	---	---	---	---			
Pickup-----	0-8	18-25	1.15-1.35	1.40-4.00	0.08-0.12	0.0-2.9	1.0-2.0	.28	.43	2	8	0
	8-34	40-55	1.20-1.35	0.42-1.40	0.10-0.13	3.0-5.9	0.5-1.0	.10	.32			
	34-44	---	---	0.00-0.42	---	---	---	---	---			
Bucklake-----	0-9	20-25	1.45-1.55	4.00-14.00	0.08-0.10	3.0-5.9	1.0-2.0	.15	.37	2	8	0
	9-13	27-35	1.40-1.55	1.40-4.00	0.11-0.14	3.0-5.9	0.5-1.0	.20	.28			
	13-24	35-50	1.35-1.50	0.42-1.40	0.10-0.12	6.0-8.9	0.5-1.0	.20	.28			
	24-34	---	---	0.00-0.42	---	---	---	---	---			
597: Wylo-----	0-4	18-27	1.20-1.30	1.40-4.00	0.09-0.11	0.0-2.9	1.0-2.0	.15	.37	1	8	0
	4-15	35-50	1.10-1.30	0.42-1.40	0.13-0.15	6.0-8.9	1.0-2.0	.15	.32			
	15-25	---	---	0.00-0.42	---	---	---	---	---			

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Nutzan-----	0-10	7.4-15	---	5.6-6.5	0	0	0	0
	10-17	6.6-15	---	6.1-7.3	0	0	0	0
	17-28	5.5-12	---	6.1-7.3	0	0	0	0
	28-36	3.4-11	---	6.1-7.3	0	0	0	0
	36-46	---	---	---	---	---	---	---
Ashdos-----	0-2	3.6-11	---	6.6-7.8	0	0	0	0
	2-12	6.6-15	---	6.6-7.8	0	0	0	0
	12-24	11-20	---	6.6-7.8	0	0	0	0
	24-60	---	---	---	---	---	---	---
306:								
Ashtre-----	0-2	8.8-15	---	6.1-7.3	0	0	0	0
	2-11	10.0-23	---	6.1-7.3	0	0	0	0
	11-26	11-29	---	6.1-7.3	0	0	0	0
	26-60	---	---	---	---	---	---	---
Nutzan-----	0-10	7.4-15	---	5.6-6.5	0	0	0	0
	10-17	6.6-15	---	6.1-7.3	0	0	0	0
	17-28	5.5-12	---	6.1-7.3	0	0	0	0
	28-36	3.4-11	---	6.1-7.3	0	0	0	0
	36-46	---	---	---	---	---	---	---
Cavin-----	0-2	7.4-15	---	5.6-6.5	0	0	0	0
	2-11	7.4-15	---	6.1-7.3	0	0	0	0
	11-18	4.3-11	---	6.6-7.3	0	0	0	0
	18-24	3.8-9.4	---	6.6-7.3	0	0	0	0
	24-60	2.6-8.5	---	6.6-7.3	0	0	0	0
307:								
Ashtre-----	0-2	8.8-15	---	6.1-7.3	0	0	0	0
	2-11	10.0-23	---	6.1-7.3	0	0	0	0
	11-26	11-29	---	6.1-7.3	0	0	0	0
	26-60	---	---	---	---	---	---	---
Tusune-----	0-2	8.8-15	---	6.1-7.3	0	0	0	0
	2-10	10.0-16	---	6.1-7.3	0	0	0	0
	10-38	15-25	---	6.1-7.3	0	0	0	0
	38-48	---	---	---	---	---	---	---
Brownsbowl-----	0-10	6.1-9.6	---	6.6-7.3	0	0	0	0
	10-28	4.1-8.8	---	6.1-7.3	0	0	0	0
	28-34	4.1-8.8	---	6.1-7.3	0	0	0	0
	34-41	4.7-7.4	---	5.6-6.5	0	0	0	0
	41-61	2.7-4.4	---	5.6-6.5	0	0	0	0
308:								
Bicondoa-----	0-11	26-62	---	7.9-9.0	1-5	0	8.0-16.0	5-12
	11-62	20-31	---	7.4-9.0	0-1	0	8.0-16.0	5-12
309:								
Bicondoa-----	0-11	26-62	---	7.9-9.0	1-5	0	8.0-16.0	5-12
	11-62	20-31	---	7.4-9.0	0-1	0	8.0-16.0	5-12
Crutcher-----	0-5	5.5-10.0	---	8.5-9.6	1-5	0	8.0-16.0	30-50
	5-15	5.2-11	---	8.5-9.6	1-5	0	4.0-8.0	30-50
	15-22	6.9-15	---	8.5-9.6	1-5	0	2.0-8.0	15-50
	22-43	6.9-15	---	8.5-9.6	5-12	0-1	2.0-8.0	5-30
	43-74	10-20	---	8.5-9.0	2-10	0-1	2.0-8.0	5-13
310:								
Bidwell-----	0-4	10.0-25	---	6.6-7.3	0	0	---	0
	4-32	12-32	---	6.1-8.4	0	0	0.0-2.0	0
	32-73	8.5-19	---	7.4-8.4	1-5	0	0.0-4.0	0
311:								
Bidwell-----	0-4	10.0-25	---	6.6-7.3	0	0	---	0
	4-32	12-32	---	6.1-8.4	0	0	0.0-2.0	0
	32-73	8.5-19	---	7.4-8.4	1-5	0	0.0-4.0	0

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
312: Bitner-----	0-7	3.6-13	---	6.1-7.3	0	0	0	0
	7-13	7.9-15	---	6.1-7.8	0	0	0	0
	13-27	6.7-12	---	6.6-7.8	0	0	0	0
	27-37	---	---	---	---	---	---	---
Ashcamp-----	0-3	5.4-13	---	6.6-7.3	0	0	0	0
	3-7	7.9-15	---	6.6-7.3	0	0	0	0
	7-23	---	---	---	---	---	---	---
313: Bombadil-----	0-2	10-17	---	6.6-7.8	0	0	0	0
	2-6	15-22	---	6.6-7.8	0	0	0	0
	6-10	20-27	---	6.6-7.8	0-1	0	0	0
	10-24	---	---	---	---	---	---	---
Brubeck-----	0-3	26-46	---	6.6-8.4	0-3	0	0.0-2.0	0
	3-23	20-36	---	6.6-8.4	0-8	0	0.0-2.0	0
	23-29	20-36	---	7.9-9.0	0-8	0	0.0-2.0	0
	29-39	---	---	---	---	---	---	---
314: Bombadil-----	0-3	8.9-13	---	6.6-7.8	0	0	0	0
	3-6	15-22	---	6.6-7.8	0	0	0	0
	6-14	20-27	---	6.6-7.8	0-1	0	0	0
	14-24	---	---	---	---	---	---	---
Ceejay-----	0-6	11-21	---	6.6-8.4	0	0	0.0-2.0	0-1
	6-15	6.0-23	---	6.6-8.4	0-1	0	0.0-4.0	0-5
	15-26	---	---	---	---	---	---	---
315: Bombadil-----	0-3	8.9-13	---	6.6-7.8	0	0	0	0
	3-6	15-22	---	6.6-7.8	0	0	0	0
	6-14	20-27	---	6.6-7.8	0-1	0	0	0
	14-24	---	---	---	---	---	---	---
Chime-----	0-7	15-21	---	7.4-7.8	0	0	0	0
	7-16	21-27	---	7.4-7.8	0	0	0.0-2.0	0
	16-25	14-27	---	7.4-8.4	0	0	0.0-2.0	0
	25-35	---	---	---	---	---	---	---
316: Bombadil-----	0-2	8.9-15	---	6.6-7.8	0	0	0	0
	2-6	15-22	---	6.6-7.8	0	0	0	0
	6-10	20-27	---	6.6-7.8	0-1	0	0	0
	10-24	---	---	---	---	---	---	---
Grassycan-----	0-4	7.8-19	---	6.1-7.8	0	0	0	0
	4-12	6.0-31	---	6.6-7.3	0	0	0	0
	12-13	---	---	---	---	---	---	---
	13-23	---	---	---	---	---	---	---
317: Bombadil-----	0-2	10-17	---	6.6-7.8	0	0	0	0
	2-6	15-22	---	6.6-7.8	0	0	0	0
	6-10	20-27	---	6.6-7.8	0-1	0	0	0
	10-24	---	---	---	---	---	---	---
Saraph-----	0-4	6.6-15	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
318: Boulder Lake-----	0-2	26-46	---	6.1-7.8	0	0	0	0
	2-60	20-36	---	6.6-8.4	0-1	0	0.0-2.0	0

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Tuffo-----	0-1	3.6-15	---	6.6-7.8	0	0	0	0
	1-8	1.4-10.0	---	6.6-7.8	0	0	0	0
	8-30	---	---	---	---	---	---	---
343:								
Chalco-----	0-3	7.8-14	---	6.1-7.8	0	0	0.0-2.0	0
	3-15	6.7-29	---	6.1-8.4	0-1	0	0.0-2.0	0
	15-30	---	---	---	---	---	---	---
Verdico-----	0-3	6.0-16	---	6.1-7.3	0	0	0	0
	3-17	23-36	---	6.1-7.8	0	0	0	0
	17-22	7.4-29	---	6.6-7.8	0-1	0	0	0
	22-32	---	---	---	---	---	---	---
Skedaddle-----	0-2	10-16	---	6.6-7.8	0	0	0	0
	2-10	15-25	---	6.6-7.8	0	0	0	0
	10-20	---	---	---	---	---	---	---
344:								
Coppersmith-----	0-5	5.4-13	---	6.6-7.3	0	0	0	0
	5-16	9.5-17	---	7.7-8.4	0	0	0	0
	16-39	3.4-7.4	---	7.9-9.0	0	0	0.0-2.0	0-5
	39-60	0.8-3.7	---	7.4-8.4	0-3	0	0.2-2.0	0
Bareranch-----	0-9	5.4-13	---	6.6-7.8	0	0	---	---
	9-29	9.2-16	---	6.6-7.8	0	0	---	---
	29-42	2.6-6.7	---	6.6-7.3	0	0	---	---
	42-60	---	---	---	---	---	---	---
345:								
Cormol-----	0-3	10.0-18	---	6.6-7.3	0	0	0	0
	3-7	10.0-18	---	6.6-7.3	0	0	0	0
	7-11	14-25	---	6.6-7.8	0	0	0	0
	11-18	11-20	---	6.6-7.8	0	0	0	0
	18-34	---	---	---	---	---	---	---
Bucklake-----	0-8	14-21	---	6.1-7.3	0	0	0	0
	8-12	15-23	---	6.6-7.8	0	0	0	0
	12-24	18-31	---	6.6-7.8	0	0	0	0
	24-34	---	---	---	---	---	---	---
Devada-----	0-6	11-26	---	6.1-7.8	0	0	0	0
	6-17	24-46	---	6.6-7.8	0	0	0	0
	17-27	---	---	---	---	---	---	---
346:								
Couch-----	0-1	11-18	---	7.9-9.0	0	0	0.0-2.0	5-13
	1-6	18-36	---	8.5-9.6	0	0	2.0-4.0	13-30
	6-13	18-36	---	8.5-9.6	0-5	0	2.0-4.0	13-30
	13-22	18-26	---	8.5-9.6	1-5	0-1	2.0-4.0	13-30
	22-60	2.9-14	---	7.9-9.6	1-5	0	16	13-15
347:								
Couch-----	0-1	11-21	---	7.9-9.0	1-5	0	8.0-16.0	13-15
	1-22	18-36	---	8.5-9.6	1-5	1-5	16	13-15
	22-60	2.9-14	---	7.9-9.6	1-5	0	16	13-15
348:								
Couch-----	0-1	11-21	---	7.9-9.0	1-5	0	8.0-16.0	13-15
	1-22	18-36	---	8.5-9.6	1-5	1-5	16	13-15
	22-40	2.9-14	---	7.9-9.6	1-5	0	16	13-15
	40-60	6.7-29	---	7.9-9.6	1-5	0	16	13-15
349:								
Couch-----	0-1	9.1-25	---	7.9-9.0	0	0	0.0-2.0	5-13
	1-6	18-36	---	8.5-9.6	0	0	2.0-4.0	13-30
	6-13	18-36	---	8.5-9.6	0-5	0	2.0-4.0	13-30
	13-22	18-26	---	8.5-9.6	1-5	0-1	2.0-4.0	13-30
	22-60	2.9-14	---	7.9-9.6	1-5	0	16	13-15

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Jesayno-----	0-12	7.9-23	---	7.4-8.4	0	0	0.0-2.0	1-5
	12-24	6.7-17	---	7.4-8.4	0	0	0.0-2.0	1-5
	24-41	6.9-17	---	7.9-8.4	1-3	0	2.0-4.0	1-5
	41-60	6.9-17	---	7.9-9.6	1-5	0	2.0-4.0	1-12
350:								
Couch-----	0-1	11-18	---	7.9-9.0	0	0	0.0-2.0	5-13
	1-6	18-36	---	8.5-9.6	0	0	2.0-4.0	13-30
	6-13	18-36	---	8.5-9.6	0-5	0	2.0-4.0	13-30
	13-22	18-26	---	8.5-9.6	1-5	0-1	2.0-4.0	13-30
	22-60	2.9-14	---	7.9-9.6	1-5	0	16	13-15
Nevadash-----	0-2	5.4-13	---	7.4-7.8	0	0	0	0
	2-5	12-18	---	7.4-7.8	0	0	0	0
	5-17	9.5-17	---	7.7-8.4	0	0	0	0
	17-28	3.4-7.4	---	7.9-8.4	0	0	0.0-2.0	0-5
	28-44	3.4-7.4	---	7.9-8.4	1-3	0	0.0-4.0	0-5
	44-68	2.6-7.4	---	7.9-8.4	1-3	0	0.0-4.0	0-5
351:								
Cowbell-----	0-3	27-51	---	6.1-7.3	0	0	0	0
	3-9	10.0-18	---	6.1-7.3	0	0	0.0-2.0	0
	9-40	11-20	---	6.1-7.3	0	0	---	---
	40-60	12-17	---	6.1-7.3	0	0	0	0
Brownsbowl-----	0-10	6.1-9.6	---	6.6-7.3	0	0	0	0
	10-28	4.1-8.8	---	6.1-7.3	0	0	0	0
	28-34	4.1-8.8	---	6.1-7.3	0	0	0	0
	34-41	4.7-7.4	---	5.6-6.5	0	0	0	0
	41-61	2.7-4.4	---	5.6-6.5	0	0	0	0
352:								
Crazybird-----	0-3	7.4-18	---	6.1-7.3	0	0	0	0
	3-15	12-22	---	6.1-7.3	0	0	0	0
	15-25	---	---	---	---	---	---	---
Warnermount, warm----	0-2	8.8-17	---	6.1-7.3	0	0	0	0
	2-10	12-22	---	6.1-7.3	0	0	0	0
	10-33	15-29	---	6.1-7.3	0	0	0	0
	33-43	---	---	---	---	---	---	---
Crazybird-----	0-3	7.4-18	---	6.1-7.3	0	0	0	0
	3-15	12-22	---	6.1-7.3	0	0	0	0
	15-25	---	---	---	---	---	---	---
353:								
Crazybird-----	0-3	7.4-18	---	6.1-7.3	0	0	0	0
	3-15	12-22	---	6.1-7.3	0	0	0	0
	15-25	---	---	---	---	---	---	---
Welltomas-----	0-2	5.4-15	---	6.1-7.3	0	0	0	0
	2-7	12-25	---	6.1-7.3	0	0	0	0
	7-17	---	---	---	---	---	---	---
354:								
Crutcher-----	0-5	5.5-10.0	---	8.5-9.6	1-5	0	8.0-16.0	30-50
	5-15	5.2-11	---	8.5-9.6	1-5	0	4.0-8.0	30-50
	15-22	6.9-15	---	8.5-9.6	1-5	0	2.0-8.0	15-50
	22-43	6.9-15	---	8.5-9.6	5-12	0-1	2.0-8.0	5-30
	43-74	10-20	---	8.5-9.0	2-10	0-1	2.0-8.0	5-13
355:								
Crutcher-----	0-5	5.5-10.0	---	8.5-9.6	1-5	0	8.0-16.0	30-50
	5-15	5.2-11	---	8.5-9.6	1-5	0	4.0-8.0	30-50
	15-22	6.9-15	---	8.5-9.6	1-5	0	2.0-8.0	15-50
	22-43	6.9-15	---	8.5-9.6	5-12	0-1	2.0-8.0	5-30
	43-74	10-20	---	8.5-9.0	2-10	0-1	2.0-8.0	5-13
Isolde-----	0-7	0.0-4.0	---	6.6-8.4	0-1	0	0	0-5
	7-60	0.0-4.0	---	6.6-8.4	0-3	0-1	0.0-2.0	0-5

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Hangrock-----	0-4	7.9-16	---	6.6-7.3	0	0	0	0
	4-17	15-25	---	6.6-7.3	0	0	0	0
	17-60	---	---	---	---	---	---	---
395:								
Esmod-----	0-6	7.8-16	---	6.6-7.8	0	0	0	0
	6-15	6.7-31	---	6.6-7.8	0	0	0	0
	15-60	---	---	---	---	---	---	---
Powlow-----	0-6	7.8-19	---	6.6-8.4	0	0	0	0
	6-15	6.0-39	---	6.6-8.4	0	0	0	0
	15-60	---	---	---	---	---	---	---
396:								
Ferver-----	0-2	11-20	---	6.6-7.8	0	0	0	0
	2-5	13-23	---	6.6-7.8	0	0	0	0
	5-28	9.5-41	---	7.4-8.4	0-1	0	0	0
	28-35	6.0-26	---	7.4-8.4	0-1	0	0	0
	35-46	---	---	---	---	---	---	---
	46-56	---	---	---	---	---	---	---
397:								
Ferver-----	0-2	13-21	---	6.6-7.8	0	0	0	0
	2-5	13-23	---	6.6-7.8	0	0	0	0
	5-28	9.5-41	---	7.4-8.4	0-1	0	0	0
	28-35	6.0-26	---	7.4-8.4	0-1	0	0	0
	35-46	---	---	---	---	---	---	---
	46-56	---	---	---	---	---	---	---
Tunnison-----	0-2	27-36	---	7.4-7.8	0	0	0	0
	2-27	9.5-33	---	6.6-7.8	0	0	0	0
	27-30	---	---	---	---	---	---	---
	30-40	---	---	---	---	---	---	---
398:								
Fitzwater-----	0-10	15-21	---	6.6-7.8	0	0	0	0
	10-19	15-24	---	6.6-7.8	0	0	0	0
	19-60	13-20	---	6.6-7.8	0	0	0	0
Westbutte-----	0-7	16-23	---	6.1-7.3	0	0	0	0
	7-33	15-25	---	6.6-7.8	0	0	0	0
	33-43	---	---	---	---	---	---	---
399:								
Fluvaquents-----	0-6	0.0-4.5	---	7.4-8.4	0-2	0	0.0-2.0	0-5
	6-60	3.1-16	---	7.4-8.4	0-2	0	0.0-2.0	0-5
Riverwash-----	0-6	---	---	---	---	---	---	0
	6-60	---	---	---	---	---	---	0
400:								
Four Star-----	0-8	8.8-22	---	6.1-7.3	0-1	0	0	0
	8-30	3.7-12	---	6.1-7.3	0	0	0	0
	30-60	2.2-11	---	6.1-7.3	0	0	0	0
401:								
Four Star-----	0-8	8.8-22	---	6.1-7.3	0-1	0	0	0
	8-30	4.7-15	---	6.1-7.3	0	0	0	0
	30-40	2.2-11	---	6.1-7.3	0	0	0	0
	40-60	18-30	---	6.1-7.3	0	0	---	0
402:								
Four Star-----	0-8	8.8-22	---	6.1-7.3	0-1	0	0	0
	8-30	3.7-12	---	6.1-7.3	0	0	0	0
	30-60	2.2-11	---	6.1-7.3	0	0	0	0
403:								
Four Star-----	0-8	8.8-22	---	6.1-7.3	0-1	0	0	0
	8-30	4.7-15	---	6.1-7.3	0	0	0	0
	30-60	2.2-11	---	6.1-7.3	0	0	0	0

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
410: Grassycan-----	0-4	9.1-16	---	6.6-7.3	0	0	0	0
	4-12	6.0-31	---	6.6-7.3	0	0	0	0
	12-13	---	---	---	---	---	---	---
	13-23	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
411: Gurlidawg-----	0-1	---	29-88	5.1-6.5	0	0	0	0
	1-6	10-24	---	5.1-6.5	0	0	0	0
	6-30	10-24	---	5.1-6.5	0	0	0	0
	30-40	---	---	---	---	---	---	---
412: Gurlidawg-----	0-1	---	30-88	5.1-6.5	0	0	0	0
	1-6	5.4-17	---	5.1-6.5	0	0	0	0
	6-30	10-24	---	5.1-6.5	0	0	0	0
	30-40	---	---	---	---	---	---	---
413: Gurlidawg-----	0-1	---	30-88	5.1-6.5	0	0	0	0
	1-6	5.4-17	---	5.1-6.5	0	0	0	0
	6-30	10-24	---	5.1-6.5	0	0	0	0
	30-40	---	---	---	---	---	---	---
414: Gurlidawg-----	0-1	---	30-88	5.1-6.5	0	0	0	0
	1-6	5.4-17	---	5.1-6.5	0	0	0	0
	6-30	10-24	---	5.1-6.5	0	0	0	0
	30-40	---	---	---	---	---	---	---
415: Halvert-----	0-2	14-23	---	6.6-7.8	0	0	0.0-2.0	0
	2-5	18-29	---	7.4-8.8	0	0	0.0-2.0	0
	5-27	29-52	---	7.4-8.4	1-3	0	0.0-2.0	0
	27-32	---	---	---	---	---	---	---
	32-42	---	---	---	---	---	---	---
Jaybee-----	0-4	15-21	---	6.6-7.8	0	0	0	0-5
	4-14	23-34	---	6.6-7.8	0	0	0	0-12
	14-24	---	---	---	---	---	---	---
Tunnison-----	0-2	27-36	---	7.4-7.8	0	0	0	0
	2-27	9.5-33	---	6.6-7.8	0	0	0	0
	27-30	---	---	---	---	---	---	---
	30-40	---	---	---	---	---	---	---
416: Hangrock-----	0-4	7.9-16	---	6.6-7.3	0	0	0	0
	4-17	15-25	---	6.6-7.3	0	0	0	0
	17-60	---	---	---	---	---	---	---
417: Harskel-----	0-3	11-19	---	6.1-7.3	0	0	0	0
	3-8	12-22	---	6.1-7.3	0	0	0	0
	8-19	12-22	---	6.1-7.3	0	0	0	0
	19-29	---	---	---	---	---	---	---
Brownsbowl-----	0-10	6.1-9.6	---	6.6-7.3	0	0	0	0
	10-28	4.1-8.8	---	6.1-7.3	0	0	0	0
	28-34	4.1-8.8	---	6.1-7.3	0	0	0	0
	34-41	4.7-7.4	---	5.6-6.5	0	0	0	0
	41-61	2.7-4.4	---	5.6-6.5	0	0	0	0
Cowbell-----	0-3	27-51	---	6.1-7.3	0	0	0	0
	3-9	10.0-18	---	6.1-7.3	0	0	0.0-2.0	0
	9-40	11-20	---	6.1-7.3	0	0	---	---
	40-60	12-17	---	6.1-7.3	0	0	0	0

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
424: Hartner-----	0-1	5.4-13	---	6.1-7.3	0	0	0	0
	1-4	5.5-11	---	6.1-7.3	0	0	0	0
	4-14	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
Sesdah-----	0-5	6.6-13	---	6.1-7.3	0	0	0	0
	5-10	12-22	---	6.1-7.3	0	0	0	0
	10-16	12-22	---	6.1-7.3	0	0	0	0
	16-26	---	---	---	---	---	---	---
425: Home Camp-----	0-3	9.8-22	---	6.1-7.3	0	0	0	0
	3-9	9.8-22	---	6.1-7.3	0	0	0	0
	9-17	17-29	---	6.1-7.3	0	0	0	0
	17-28	20-31	---	6.1-7.3	0	0	0	0
	28-38	---	---	---	---	---	---	---
Runyon-----	0-2	8.9-16	---	5.6-7.3	0	0	0	0
	2-5	8.9-16	---	6.1-7.3	0	0	0	0
	5-25	16-25	---	6.1-7.3	0	0	0	0
	25-37	20-29	---	6.6-7.8	0	0	0	0
	37-72	---	---	---	---	---	---	---
426: Hovey-----	0-10	22-33	---	7.9-9.0	1-5	0	2.0-8.0	0
	10-48	19-27	---	7.9-9.0	1-5	0	4.0-8.0	0
	48-72	11-23	---	7.9-9.0	1-5	0	4.0-8.0	0
427: Hussa-----	0-12	19-32	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-60	15-25	---	7.9-9.0	0-5	0	0.0-4.0	0
428: Hussa-----	0-12	19-32	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-45	15-25	---	7.9-9.0	0-5	0	0.0-4.0	0
	45-60	18-30	---	7.9-9.0	1-5	0	0.0-4.0	0
429: Hussa-----	0-12	10.0-25	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-45	15-25	---	7.9-9.0	0-5	0	0.0-4.0	0
	45-60	18-30	---	7.9-9.0	1-5	0	0.0-4.0	0
430: Hussa-----	0-12	10.0-25	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-60	15-25	---	7.9-9.0	0-5	0	0.0-4.0	0
431: Hussa-----	0-12	10.0-25	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-60	15-25	---	7.9-9.0	0-5	0	0.0-4.0	0
432: Hussa-----	0-10	10.0-23	---	7.9-9.0	1-5	0	4.0-8.0	0
	10-40	15-25	---	7.9-9.0	0-5	0	4.0-8.0	0
	40-60	16-21	---	7.9-9.0	1-5	0	0.0-8.0	0
433: Hussa-----	0-12	19-32	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-60	15-25	---	7.9-9.0	0-5	0	0.0-4.0	0
434: Hussa-----	0-12	19-32	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-60	15-25	---	7.9-9.0	0-5	0	0.0-4.0	0
435: Hussa-----	0-12	10.0-25	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-60	15-25	---	7.9-9.0	0-5	0	0.0-4.0	0

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation	Effective	Soil	Calcium	Gypsum	Salinity	Sodium
		exchange capacity	cation exchange capacity	reaction	carbon- ate		mmhos/cm	adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct		
Ninemile-----	0-7	14-27	---	6.1-8.4	0	0	0	0
	7-19	26-52	---	6.6-8.4	0	0	0	0
	19-29	---	---	---	---	---	---	---
Nutzan-----	0-10	7.4-15	---	5.6-6.5	0	0	0	0
	10-17	6.6-15	---	6.1-7.3	0	0	0	0
	17-28	5.5-12	---	6.1-7.3	0	0	0	0
	28-36	3.4-11	---	6.1-7.3	0	0	0	0
	36-46	---	---	---	---	---	---	---
441: Hutchley-----	0-6	11-16	---	6.1-7.8	0	0	0	0
	6-14	19-28	---	6.6-7.8	0	0	0	0
	14-24	---	---	---	---	---	---	---
Softscrabble-----	0-20	8.9-18	---	6.1-7.3	0	0	0	0
	20-32	22-28	---	6.1-7.3	0	0	0	0
	32-61	20-31	---	6.1-7.3	0	0	0	0
	61-71	---	---	---	---	---	---	---
442: Indian Creek-----	0-5	11-21	---	6.1-7.3	0	0	0.0-2.0	0-1
	5-18	18-34	---	6.1-7.8	0-1	0	0.0-2.0	0-1
	18-25	---	---	---	---	---	---	---
	25-60	1.1-11	---	6.6-9.0	0-5	0	0.0-4.0	0-1
Buffaran-----	0-2	18-29	---	6.6-7.8	0	0	0	0
	2-16	6.0-31	---	6.6-8.4	0	0	0.0-4.0	0-5
	16-27	---	---	---	---	---	---	---
	27-60	---	---	---	---	---	---	---
443: Jaybee-----	0-4	15-21	---	6.6-7.8	0	0	0.0-2.0	1-5
	4-14	23-34	---	6.6-7.8	0	0	0.0-2.0	1-12
	14-24	---	---	---	---	---	---	---
Verdico-----	0-3	6.0-16	---	6.1-7.3	0	0	0	0
	3-17	23-36	---	6.1-7.8	0	0	0	0
	17-22	7.4-29	---	6.6-7.8	0-1	0	0	0
	22-32	---	---	---	---	---	---	---
444: Reddie-----	0-34	15-23	---	6.1-7.3	0	0	0	0
	34-50	15-22	---	6.1-7.3	0	0	0	0
	50-60	8.9-21	---	6.1-7.3	0	0	0	0
445: Leviathan-----	0-8	8.9-17	---	6.1-7.3	0	0	0.0-2.0	0
	8-60	21-27	---	6.1-7.3	0	0	0.0-2.0	0
446: Lolak-----	0-4	26-39	---	8.5-9.6	1-5	0	8.0-16.0	13-15
	4-60	18-31	---	9.0-9.6	1-5	0	8.0-16.0	13-15
447: Longdis-----	0-5	18-29	---	7.4-8.4	0	0	0.0-2.0	5-13
	5-26	20-31	---	7.9-9.0	0-2	0	2.0-4.0	13-45
	26-45	6.0-25	---	8.5-9.0	1-5	0-2	2.0-4.0	13-45
	45-61	6.0-23	---	8.5-9.0	1-3	0-1	2.0-8.0	13-45
Dugway-----	0-5	4.0-14	---	7.4-8.4	0	0	0.0-4.0	0-5
	5-18	18-31	---	7.9-9.0	1-3	0	0.0-4.0	13-45
	18-35	3.7-16	---	7.9-9.0	1-5	0	2.0-4.0	5-12
	35-52	---	---	---	---	---	---	---
	52-61	4.5-18	---	8.5-9.0	0-3	0	0.0-8.0	13-45
448: Longval-----	0-1	65-84	---	5.6-6.5	0	0	0	0
	1-15	3.6-15	---	5.6-6.5	0	0	0	0
	15-32	4.5-11	---	5.6-6.5	0	0	0	0
	32-60	2.5-7.1	---	5.6-6.5	0	0	0	0

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
449: Lotawaca-----	0-1	73-106	---	5.6-6.5	0	0	0	0
	1-7	5.4-20	---	5.6-6.5	0	0	0	0
	7-20	12-20	---	5.6-6.5	0	0	0	0
	20-40	11-19	---	5.6-6.5	0	0	0	0
	40-50	---	---	---	---	---	---	---
450: Lotawaca-----	0-1	73-106	---	5.6-6.5	0	0	0	0
	1-7	5.4-20	---	5.6-6.5	0	0	0	0
	7-20	12-20	---	5.6-6.5	0	0	0	0
	20-40	11-19	---	5.6-6.5	0	0	0	0
	40-50	---	---	---	---	---	---	---
451: Lyonman-----	0-1	65-84	---	5.6-6.5	0	0	0	0
	1-7	4.1-12	---	5.6-6.5	0	0	0	0
	7-13	5.4-17	---	5.6-6.5	0	0	0	0
	13-31	11-22	---	6.1-7.3	0	0	0	0
	31-56	---	---	---	---	---	---	---
452: Lyonman-----	0-1	65-84	---	5.6-6.5	0	0	0	0
	1-7	4.1-12	---	5.6-6.5	0	0	0	0
	7-13	5.4-17	---	5.6-6.5	0	0	0	0
	13-31	11-22	---	6.1-7.3	0	0	0	0
	31-56	---	---	---	---	---	---	---
453: Lyonman-----	0-1	65-84	---	5.6-6.5	0	0	0	0
	1-7	4.1-12	---	5.6-6.5	0	0	0	0
	7-13	5.4-17	---	5.6-6.5	0	0	0	0
	13-31	11-22	---	6.1-7.3	0	0	0	0
	31-56	---	---	---	---	---	---	---
454: Lyonman, cool-----	0-1	65-84	---	5.6-6.5	0	0	0	0
	1-7	4.1-12	---	5.6-6.5	0	0	0	0
	7-13	5.4-17	---	5.6-6.5	0	0	0	0
	13-31	11-22	---	6.1-7.3	0	0	0	0
	31-56	---	---	---	---	---	---	---
455: Macnot-----	0-1	3.6-8.8	---	7.4-8.4	1-3	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12
456: Macnot-----	0-1	3.6-8.8	---	7.4-8.4	1-3	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12
Glasshawk-----	0-2	4.9-11	---	7.9-9.0	0-1	0	0.0-2.0	13-30
	2-7	4.3-9.2	---	7.9-9.0	0-2	0	0.0-2.0	13-30
	7-12	3.5-8.5	---	7.4-9.0	1-5	0	0.0-2.0	30-50
	12-48	---	---	---	---	---	---	---
	48-60	---	---	---	---	---	---	---
457: Macnot-----	0-1	3.6-8.8	---	7.4-8.4	1-3	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Gorzell-----	0-8	8.9-15	---	6.6-7.8	0-2	0	0.0-2.0	0
	8-12	20-27	---	7.9-9.0	1-5	0	0.0-4.0	0
	12-30	19-27	---	7.9-9.0	1-5	0	0.0-4.0	1-12
	30-60	0.0-6.8	---	8.5-9.6	0-5	0	0.0-4.0	1-12
Macnot, nearly level-	0-1	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	0.0-4.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12
458:								
Macnot, nearly level-	0-1	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	0.0-4.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12
Jesayno-----	0-12	7.9-23	---	7.4-8.4	0	0	0.0-2.0	1-5
	12-24	6.7-17	---	7.4-8.4	0	0	0.0-2.0	1-5
	24-41	6.9-17	---	7.9-8.4	1-3	0	2.0-4.0	1-5
	41-60	6.9-17	---	7.9-9.6	1-5	0	2.0-4.0	1-12
Nevadash-----	0-2	5.4-13	---	7.4-7.8	0	0	0	0
	2-5	12-18	---	7.4-7.8	0	0	0	0
	5-17	9.5-17	---	7.7-8.4	0	0	0	0
	17-28	3.4-7.4	---	7.9-8.4	0	0	0.0-2.0	0-5
	28-44	3.4-7.4	---	7.9-8.4	1-3	0	0.0-4.0	0-5
	44-68	2.6-7.4	---	7.9-8.4	1-3	0	0.0-4.0	0-5
459:								
Macnot-----	0-1	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	0.0-4.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12
Mcwatt-----	0-10	6.9-12	---	6.6-7.8	0	0	0	0
	10-20	5.8-12	---	6.6-7.8	0	0	0	0
	20-44	0.0-4.6	---	7.4-8.4	1-3	0	0.0-2.0	0
	44-54	---	---	---	---	---	---	---
Old Camp-----	0-2	8.9-16	---	6.6-7.8	0	0	0.0-2.0	0-5
	2-14	21-27	---	6.6-9.0	0-3	0	0.0-2.0	0
	14-24	---	---	---	---	---	---	---
460:								
Macnot-----	0-1	3.6-8.8	---	7.4-8.4	1-3	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12
Macnot, nearly level-	0-1	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	0.0-4.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12
Nomazu, moderately saline-----	0-7	3.5-11	---	7.9-9.0	1-5	0	8.0-16.0	30-50
	7-10	3.4-8.5	---	7.9-9.0	10-15	0	8.0-16.0	30-50
	10-13	3.4-7.4	---	8.5-9.6	10-20	0	8.0-16.0	30-50
	13-29	3.4-7.4	---	8.5-9.6	15-25	0	8.0-16.0	30-50
	29-38	3.4-6.7	---	8.5-9.6	15-25	0	4.0-8.0	13-30
	38-48	3.4-6.7	---	7.9-8.4	15-25	0-1	4.0-8.0	13-30
	48-60	3.4-6.7	---	7.9-8.4	5-10	0-1	4.0-8.0	13-30

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
461:								
Madeline-----	0-5	14-23	---	6.1-7.3	0	0	0	0
	5-9	18-36	---	6.1-7.3	0	0	0	0
	9-16	18-36	---	6.1-7.8	0	0	0	0
	16-29	---	---	---	---	---	---	---
Sumine-----	0-5	9.1-18	---	6.6-7.8	0	0	0	0
	5-11	20-29	---	6.6-7.8	0	0	0	0
	11-24	20-29	---	6.6-7.8	0	0	0	0
	24-34	---	---	---	---	---	---	---
462:								
Mazuma-----	0-6	6.2-10	---	7.9-9.6	1-5	0	0.0-4.0	1-5
	6-62	4.1-12	---	7.9-9.6	1-10	0	4.0-16.0	13-45
Bighat-----	0-2	6.2-15	---	7.9-9.0	1-5	0	2.0-4.0	1-5
	2-9	6.2-15	---	7.9-9.0	1-5	0	2.0-4.0	1-5
	9-16	17-27	---	7.9-9.0	1-8	0	2.0-4.0	13-45
	16-31	0.0-2.0	---	7.9-9.0	5-10	0	2.0-4.0	5-20
	31-60	0.0-2.0	---	7.9-9.0	5-10	0	2.0-4.0	5-20
463:								
Mcwatt-----	0-10	6.9-12	---	6.6-7.8	0	0	0	0
	10-20	5.8-12	---	6.6-7.8	0	0	0	0
	20-44	0.0-4.6	---	7.4-8.4	1-3	0	0.0-2.0	0
	44-54	---	---	---	---	---	---	---
Old Camp-----	0-2	8.9-17	---	6.6-7.8	0	0	0.0-2.0	0-5
	2-14	21-27	---	6.6-9.0	0-3	0	0.0-2.0	0
	14-24	---	---	---	---	---	---	---
464:								
Mcwatt-----	0-10	6.9-12	---	6.6-7.8	0	0	0	0
	10-20	5.8-12	---	6.6-7.8	0	0	0	0
	20-44	0.0-4.6	---	7.4-8.4	1-3	0	0.0-2.0	0
	44-54	---	---	---	---	---	---	---
Skedaddle-----	0-2	10-16	---	6.6-7.8	0	0	0	0
	2-10	15-25	---	6.6-7.8	0	0	0	0
	10-20	---	---	---	---	---	---	---
465:								
Medved-----	0-5	7.3-13	---	6.6-7.8	0	0	0	0
	5-9	6.2-12	---	6.6-7.8	0	0	0	0
	9-19	---	---	---	---	---	---	---
466:								
Menbo-----	0-6	14-27	---	6.6-7.3	0	0	0	0
	6-26	23-39	---	6.6-7.3	0	0	0	0
	26-36	---	---	---	---	---	---	---
Softscrabble-----	0-20	8.9-17	---	6.1-7.3	0	0	0	0
	20-32	22-28	---	6.1-7.3	0	0	0	0
	32-61	20-31	---	6.1-7.3	0	0	0	0
	61-71	---	---	---	---	---	---	---
Badgercamp-----	0-5	7.5-11	---	6.6-7.3	0	0	0	0
	5-15	10-16	---	6.6-7.3	0	0	0	0
	15-25	---	---	---	---	---	---	---
467:								
Nevadash-----	0-2	10.0-16	---	7.4-7.8	0	0	0	0
	2-5	12-18	---	7.4-7.8	0	0	0	0
	5-17	9.5-17	---	7.7-8.4	0	0	0	0
	17-28	3.4-7.4	---	7.9-8.4	0	0	0.0-2.0	0-5
	28-44	3.4-7.4	---	7.9-8.4	1-3	0	0.0-4.0	0-5
	44-68	2.6-7.4	---	7.9-8.4	1-3	0	0.0-4.0	0-5

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation	Effective	Soil	Calcium	Gypsum	Salinity	Sodium
		exchange capacity	cation exchange capacity	reaction	carbon- ate			adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
525: Pits, gravel-----	---	---	---	---	---	---	---	---
526: Pits, mine-----	0-60	---	---	---	---	---	---	---
Dumps, mine-----	---	---	---	---	---	---	---	---
527: Playas-----	0-6	---	---	8.5-9.0	1-5	1-5	16.0-32.0	45-90
	6-60	---	---	8.5-9.0	1-10	1-10	16.0-32.0	45-90
528: Pyropatti, cool-----	0-9	8.8-17	---	6.1-7.3	0	0	0	0
	9-20	7.9-15	---	6.1-7.3	0	0	0	0
	20-30	12-22	---	6.1-7.3	0	0	0	0
	30-48	11-22	---	6.1-7.3	0	0	0	0
	48-58	---	---	---	---	---	---	---
Pyropatti-----	0-9	8.8-17	---	6.1-7.3	0	0	0	0
	9-20	7.9-15	---	6.1-7.3	0	0	0	0
	20-30	12-22	---	6.1-7.3	0	0	0	0
	30-48	11-22	---	6.1-7.3	0	0	0	0
	48-58	---	---	---	---	---	---	---
529: Raglan-----	0-2	8.6-17	---	7.8-9.6	1-5	0	4.0-8.0	5-15
	2-13	7.6-20	---	7.9-9.0	0	0	8.0-16.0	13-30
	13-64	13-20	---	8.4-9.6	1-5	0	8.0-16.0	13-45
530: Raglan-----	0-3	8.6-17	---	7.9-9.0	0	0	4.0-8.0	0-5
	3-14	7.6-20	---	7.9-9.0	0	0	8.0-16.0	13-30
	14-60	13-20	---	8.5-9.0	1-10	0-1	8.0-32.0	31-45
Crutcher-----	0-5	5.5-10.0	---	8.5-9.6	1-5	0	8.0-16.0	30-50
	5-15	5.2-11	---	8.5-9.6	1-5	0	4.0-8.0	30-50
	15-22	6.9-15	---	8.5-9.6	1-5	0	2.0-8.0	15-50
	22-43	6.9-15	---	8.5-9.6	5-12	0-1	2.0-8.0	5-30
	43-74	10-20	---	8.5-9.0	2-10	0-1	2.0-8.0	5-13
531: Raglan-----	0-3	8.6-17	---	7.9-9.0	0	0	4.0-8.0	0-5
	3-14	7.6-20	---	7.9-9.0	0	0	8.0-16.0	13-30
	14-60	13-20	---	8.5-9.0	1-10	0-1	8.0-32.0	31-45
Isolde-----	0-7	0.0-4.0	---	6.6-8.4	0-1	0	0	0-5
	7-60	0.0-4.0	---	6.6-8.4	0-3	0-1	0.0-2.0	0-5
532: Raglan-----	0-3	8.6-17	---	7.9-9.0	0	0	4.0-8.0	0-5
	3-14	7.6-20	---	7.9-9.0	0	0	8.0-16.0	13-30
	14-60	13-20	---	8.5-9.0	1-10	0-1	8.0-32.0	31-45
Mazuma-----	0-6	6.2-10	---	7.9-9.6	1-5	0	0.0-4.0	1-5
	6-62	4.1-12	---	7.9-9.6	1-10	0	4.0-16.0	13-45
533: Redhome-----	0-2	16-21	---	6.1-7.3	0	0	0	0
	2-6	22-25	---	6.1-7.3	0	0	0	0
	6-13	24-32	---	6.1-7.3	0	0	0	0
	13-36	27-34	---	6.6-7.8	0	0	0	0
	36-46	---	---	---	---	---	---	---
Cowbell-----	0-3	27-51	---	6.1-7.3	0	0	0	0
	3-9	10.0-18	---	6.1-7.3	0	0	0.0-2.0	0
	9-40	11-20	---	6.1-7.3	0	0	---	---
	40-60	12-17	---	6.1-7.3	0	0	0	0

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
549:								
Bombadil-----	0-2	8.9-15	---	6.6-7.8	0	0	0	0
	2-6	15-22	---	6.6-7.8	0	0	0	0
	6-10	20-27	---	6.6-7.8	0-1	0	0	0
	10-24	---	---	---	---	---	---	---
Saraph-----	0-4	3.6-13	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Macnot, nearly level-	0-1	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	0.0-4.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12
550:								
Saraph-----	0-4	3.6-13	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Chalco-----	0-3	7.8-18	---	6.6-7.8	0	0	0.0-2.0	0-5
	3-15	6.7-29	---	6.1-7.8	0-1	0	0.0-2.0	0
	15-30	---	---	---	---	---	---	---
551:								
Saraph-----	0-4	3.6-13	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Chalco-----	0-3	7.8-14	---	6.1-7.8	0	0	0.0-2.0	0
	3-15	6.7-29	---	6.1-8.4	0-1	0	0.0-2.0	0
	15-30	---	---	---	---	---	---	---
Bombadil-----	0-2	8.9-15	---	6.6-7.8	0	0	0	0
	2-6	15-22	---	6.6-7.8	0	0	0	0
	6-10	20-27	---	6.6-7.8	0-1	0	0	0
	10-24	---	---	---	---	---	---	---
552:								
Saraph-----	0-4	3.6-13	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Hangrock-----	0-4	7.9-16	---	6.6-7.3	0	0	0	0
	4-17	15-25	---	6.6-7.3	0	0	0	0
	17-60	---	---	---	---	---	---	---
Tuffo-----	0-1	3.6-15	---	6.6-7.8	0	0	0	0
	1-8	1.4-10.0	---	6.6-7.8	0	0	0	0
	8-30	---	---	---	---	---	---	---
553:								
Saraph-----	0-4	3.6-13	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Macnot, nearly level-	0-1	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	1-6	2.6-8.5	---	7.4-8.4	1-5	0	0.0-2.0	0-5
	6-16	1.4-4.9	---	7.9-8.4	10-15	0	0.0-4.0	0-5
	16-24	1.1-3.3	---	7.9-8.4	10-15	0	4.0-8.0	0-5
	24-60	0.0-2.1	---	7.9-9.0	3-8	0	0.0-4.0	1-12

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Tuffo-----	0-1	3.6-15	---	6.6-7.8	0	0	0	0
	1-8	1.4-10.0	---	6.6-7.8	0	0	0	0
	8-30	---	---	---	---	---	---	---
554:								
Saraph-----	0-4	6.6-15	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Nosavvy-----	0-6	5.4-13	---	6.6-7.8	0	0	0	0
	6-29	11-17	---	6.6-7.3	0	0	0	0
	29-36	3.2-11	---	7.4-9.0	0	0	0	0
	36-63	2.6-7.4	---	7.4-9.0	0-3	0	0.0-2.0	0-5
Tuffo-----	0-1	3.6-15	---	6.6-7.8	0	0	0	0
	1-8	1.4-10.0	---	6.6-7.8	0	0	0	0
	8-30	---	---	---	---	---	---	---
555:								
Saraph-----	0-4	3.6-13	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Old Camp-----	0-2	8.9-16	---	6.6-7.8	0	0	0.0-2.0	0-5
	2-14	21-27	---	6.6-9.0	0-3	0	0.0-2.0	0
	14-24	---	---	---	---	---	---	---
Skedaddle-----	0-2	10-16	---	6.6-7.8	0	0	0	0
	2-10	15-25	---	6.6-7.8	0	0	0	0
	10-20	---	---	---	---	---	---	---
556:								
Saraph-----	0-4	3.6-13	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Tuffo-----	0-1	3.6-15	---	6.6-7.8	0	0	0	0
	1-8	1.4-10.0	---	6.6-7.8	0	0	0	0
	8-30	---	---	---	---	---	---	---
Old Camp-----	0-2	8.9-16	---	6.6-7.8	0	0	0.0-2.0	0-5
	2-14	21-27	---	6.6-9.0	0-3	0	0.0-2.0	0
	14-24	---	---	---	---	---	---	---
557:								
Saraph-----	0-4	0.4-6.6	---	6.6-7.8	0	0	0	0
	4-9	5.5-15	---	6.6-7.8	0	0	0	0
	9-16	7.8-23	---	6.6-7.8	0-1	0	0.0-2.0	0
	16-30	---	---	---	---	---	---	---
Tuffo-----	0-1	3.6-15	---	6.6-7.8	0	0	0	0
	1-8	1.4-10.0	---	6.6-7.8	0	0	0	0
	8-18	---	---	---	---	---	---	---
Yellowhills-----	0-17	5.4-15	---	6.6-7.8	0	0	0	0
	17-37	2.6-10.0	---	6.6-7.8	0	0	0	0
	37-60	2.6-10.0	---	6.6-7.8	0	0	0	0
558:								
Schamp-----	0-5	11-23	---	6.6-7.8	0	0	0	0
	5-8	15-20	---	6.6-8.4	0	0	0	0
	8-32	6.0-29	---	7.4-8.4	0	0	0.0-2.0	1-12
	32-43	2.9-14	---	8.5-9.0	0-2	0	4.0-8.0	13-30
	43-60	2.0-14	---	8.5-9.0	0-3	0	4.0-8.0	0-30

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
Hutchley-----	0-6	11-16	---	6.1-7.8	0	0	0	0
	6-14	19-28	---	6.6-7.8	0	0	0	0
	14-24	---	---	---	---	---	---	---
568:								
Softscrabble-----	0-20	8.9-17	---	6.1-7.3	0	0	0	0
	20-32	22-28	---	6.1-7.3	0	0	0	0
	32-61	20-31	---	6.1-7.3	0	0	0	0
	61-71	---	---	---	---	---	---	---
Hart Camp-----	0-3	9.1-15	---	6.1-7.3	0	0	0	0
	3-13	17-28	---	6.1-7.3	0	0	0	0
	13-23	---	---	---	---	---	---	---
569:								
Softscrabble-----	0-20	8.9-18	---	6.1-7.3	0	0	0	0
	20-32	22-28	---	6.1-7.3	0	0	0	0
	32-61	20-31	---	6.1-7.3	0	0	0	0
	61-71	---	---	---	---	---	---	---
Sumine-----	0-6	13-18	---	6.6-7.8	0	0	0	0
	6-28	20-29	---	6.6-7.8	0	0	0	0
	28-32	---	---	---	---	---	---	---
Hutchley-----	0-6	11-16	---	6.1-7.8	0	0	0	0
	6-14	19-28	---	6.6-7.8	0	0	0	0
	14-24	---	---	---	---	---	---	---
570:								
Soughe-----	0-4	8.9-17	---	6.6-8.4	0	0	0	0-5
	4-17	20-27	---	6.6-8.4	0	0	0.0-2.0	0-5
	17-27	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
571:								
Soughe-----	0-4	8.9-17	---	6.6-8.4	0	0	0	0-5
	4-17	20-27	---	6.6-8.4	0	0	0.0-2.0	0-5
	17-27	---	---	---	---	---	---	---
Rock outcrop-----	---	---	---	---	---	---	---	---
572:								
Steerlake-----	0-3	16-25	---	6.6-7.8	0	0	0	0
	3-6	21-31	---	6.6-7.8	0	0	0	0
	6-31	23-39	---	6.6-7.8	0	0	0.0-0.1	0
	31-48	6.6-12	---	7.4-8.4	1-2	0	1.0-3.0	0-5
	48-60	---	---	---	---	---	---	---
Reywat-----	0-6	7.3-16	---	6.6-8.4	0	0	0	0
	6-18	17-27	---	6.6-8.4	0	0	0	0
	18-28	---	---	---	---	---	---	---
573:								
Steerlake-----	0-3	16-25	---	6.6-7.8	0	0	0	0
	3-6	21-31	---	6.6-7.8	0	0	0	0
	6-31	23-39	---	6.6-7.8	0	0	0.0-0.1	0
	31-48	6.6-12	---	7.4-8.4	1-2	0	1.0-3.0	0-5
	48-60	---	---	---	---	---	---	---
Wylo-----	0-4	13-23	---	6.6-7.8	0	0	0.0-2.0	0
	4-15	23-39	---	6.6-7.8	0	0	0.0-2.0	0
	15-25	---	---	---	---	---	---	---
574:								
Surprise-----	0-9	2.4-13	---	6.1-7.3	0	0	---	0
	9-28	5.5-12	---	6.1-7.3	0	0	0	0
	28-57	5.5-12	---	6.1-7.3	0	0	0	0

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbonate	Gypsum	Salinity	Sodium adsorption ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
575: Surprise-----	0-9	2.4-13	---	6.1-7.3	0	0	---	0
	9-28	5.5-12	---	6.1-7.3	0	0	0	0
	28-57	5.5-12	---	6.1-7.3	0	0	0	0
576: Tuledad-----	0-1	16-23	---	6.1-7.3	0	0	0.0-2.0	0
	1-3	16-23	---	6.1-7.3	0	0	0	0
	3-15	15-29	---	6.6-7.8	0	0	0	0
	15-25	---	---	---	---	---	---	---
Nitpac-----	0-8	11-21	---	6.6-7.8	0	0	0	0
	8-21	23-36	---	6.6-7.8	0	0	0	0
	21-26	18-28	---	6.6-7.8	0	0	0	0
	26-34	---	---	---	---	---	---	---
	34-44	---	---	---	---	---	---	---
Bidrim-----	0-3	13-26	---	6.6-7.3	0	0	0	0
	3-8	22-37	---	6.6-7.3	0	0	0	0
	8-13	8.8-39	---	6.6-7.3	0	0	0	0
	13-23	---	---	---	---	---	---	---
577: Tunnison-----	0-2	34-52	---	6.6-7.8	0	0	0	0
	2-27	9.5-33	---	6.6-7.8	0	0	0	0
	27-30	---	---	---	---	---	---	---
	30-40	---	---	---	---	---	---	---
Devada-----	0-6	11-26	---	6.1-7.8	0	0	0	0
	6-17	24-46	---	6.6-7.8	0	0	0	0
	17-27	---	---	---	---	---	---	---
Bidrim-----	0-3	13-26	---	6.6-7.3	0	0	0	0
	3-8	22-37	---	6.6-7.3	0	0	0	0
	8-13	8.8-39	---	6.6-7.3	0	0	0	0
	13-23	---	---	---	---	---	---	---
578: Tunnison-----	0-2	34-52	---	6.6-7.8	0	0	0	0
	2-27	9.5-33	---	6.6-7.8	0	0	0	0
	27-30	---	---	---	---	---	---	---
	30-40	---	---	---	---	---	---	---
Tuledad-----	0-1	16-23	---	6.1-7.3	0	0	0.0-2.0	0
	1-3	16-23	---	6.1-7.3	0	0	0	0
	3-15	15-29	---	6.6-7.8	0	0	0	0
	15-25	---	---	---	---	---	---	---
579: Tusune-----	0-2	8.8-15	---	6.1-7.3	0	0	0	0
	2-10	10.0-16	---	6.1-7.3	0	0	0	0
	10-38	15-25	---	6.1-7.3	0	0	0	0
	38-48	---	---	---	---	---	---	---
Hartig-----	0-10	6.4-16	---	6.1-7.3	0	0	0	0
	10-21	10-17	---	6.1-7.3	0	0	0	0
	21-42	8.6-15	---	6.6-7.3	0	0	0	0
	42-52	---	---	---	---	---	---	---
580: Udike-----	0-4	6.2-14	---	7.9-9.6	1-5	0	8.0-16.0	13-45
	4-36	6.0-25	---	7.9-9.6	1-5	0	8.0-16.0	13-45
	36-60	5.2-23	---	7.9-9.6	5-10	0-1	8.0-16.0	13-45
Longdis-----	0-5	18-29	---	7.4-8.4	0	0	0.0-2.0	5-13
	5-26	20-31	---	7.9-9.0	0-2	0	2.0-4.0	13-45
	26-45	6.0-25	---	8.5-9.0	1-5	0-2	2.0-4.0	13-45
	45-61	6.0-23	---	8.5-9.0	1-3	0-1	2.0-8.0	13-45

TABLE 15.--Chemical Soil Properties

Map symbol and soil name	Depth	Cation exchange capacity	Effective cation exchange capacity	Soil reaction	Calcium carbon- ate	Gypsum	Salinity	Sodium adsorp- tion ratio
	Inches	meq/100 g	meq/100 g	pH	Pct	Pct	mmhos/cm	
581: Urdike-----	0-4	6.2-14	---	7.9-9.6	1-5	0	8.0-16.0	13-45
	4-36	6.0-25	---	7.9-9.6	1-5	0	8.0-16.0	13-45
	36-60	5.2-23	---	7.9-9.6	5-10	0-1	8.0-16.0	13-45
Mazuma-----	0-6	6.2-10	---	7.9-9.6	1-5	0	0.0-4.0	1-5
	6-62	4.1-12	---	7.9-9.6	1-10	0	4.0-16.0	13-45
582: Valmy-----	0-2	4.6-13	---	7.9-9.0	0	0	0.0-8.0	1-12
	2-53	4.1-12	---	8.5-9.6	1-4	0	0.0-8.0	13-30
	53-60	1.0-4.6	---	8.5-9.6	1-4	0	0.0-8.0	13-45
583: Warnermount, warm----	0-2	8.8-17	---	6.1-7.3	0	0	0	0
	2-10	12-22	---	6.1-7.3	0	0	0	0
	10-33	15-29	---	6.1-7.3	0	0	0	0
	33-43	---	---	---	---	---	---	---
584: Warnermount-----	0-2	8.8-17	---	6.1-7.3	0	0	0	0
	2-10	12-22	---	6.1-7.3	0	0	0	0
	10-33	15-29	---	6.1-7.3	0	0	0	0
	33-43	---	---	---	---	---	---	---
Burningman-----	0-3	9.3-15	---	6.1-7.3	0	0	0	0
	3-8	13-23	---	6.1-7.3	0	0	0	0
	8-18	23-39	---	6.1-7.3	0	0	0	0
	18-28	---	---	---	---	---	---	---
585: Warnermount-----	0-2	8.8-17	---	6.1-7.3	0	0	0	0
	2-10	12-22	---	6.1-7.3	0	0	0	0
	10-33	15-29	---	6.1-7.3	0	0	0	0
	33-43	---	---	---	---	---	---	---
Crazybird-----	0-3	7.4-18	---	6.1-7.3	0	0	0	0
	3-15	12-22	---	6.1-7.3	0	0	0	0
	15-25	---	---	---	---	---	---	---
587: Weezweed-----	0-16	13-26	---	6.6-7.8	0	0	0	0
	16-60	11-22	---	6.6-8.4	0	0	0	0
Emagert-----	0-14	13-26	---	6.1-7.8	0	0	0	0
	14-38	12-22	---	6.1-7.8	0	0	0	0
	38-60	5.5-20	---	6.1-7.8	0	0	0	0
Wetvit-----	0-16	13-22	---	6.1-7.8	0	0	0	0
	16-44	12-22	---	6.1-7.8	0	0	0	0
	44-60	8.5-20	---	6.6-7.8	0	0	0	0
588: Weimer-----	0-7	45-79	---	6.1-7.8	0	0	0	0
	7-48	46-70	---	7.4-8.4	0-1	0	0	0
	48-60	31-63	---	7.9-9.0	1-3	0	0.0-4.0	0-1
589: Weimer-----	0-7	45-79	---	6.1-7.8	0	0	0	0
	7-48	46-70	---	7.4-8.4	0-1	0	0	0
	48-60	31-63	---	7.9-9.0	1-3	0	0.0-4.0	0-1
Boulder Lake-----	0-2	26-46	---	6.1-7.8	0	0	0	0
	2-60	20-36	---	6.6-8.4	0-1	0	0.0-2.0	0
590: Weimer-----	0-7	45-79	---	6.1-7.8	0	0	0	0
	7-48	46-70	---	7.4-8.4	0-1	0	0	0
	48-60	31-63	---	7.9-9.0	1-3	0	0.0-4.0	0-1

TABLE 16.--Water Features

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
300: Anawalt-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ninemile-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
301: Ashtre-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Ashdos-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
302: Ashtre-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ashdos-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Tusune-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
303: Ashtre-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bitner-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
304: Ashtre-----	C	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Crocac-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
305: Ashtre-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Nutzan-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ashdos-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
306: Ashtre-----	C	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Nutzan-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cavin-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
307: Ashtre-----	C	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Tusune-----	B	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Brownsbowl-----	A	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
308: Bicondoa-----	D	Medium								
			January	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			February	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			March	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			May	1.0-3.0	>6.0	---	---	None	---	None
			June	1.0-3.0	>6.0	---	---	None	---	None
			July	1.0-3.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	1.0-3.0	>6.0	---	---	None	Brief	Occasional			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
309: Bicondoa-----	D	Medium	January	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			February	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			March	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-3.0	>6.0	---	---	None	Brief	Occasional
			May	1.0-3.0	>6.0	---	---	None	---	None
			June	1.0-3.0	>6.0	---	---	None	---	None
			July	1.0-3.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	1.0-3.0	>6.0	---	---	None	Brief	Occasional
Crutcher-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			March	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			April	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			May	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			June	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			July	3.3-5.0	5.0-6.0	---	---	None	---	None
			August	3.3-5.0	5.0-6.0	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
310: Bidwell-----	C	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
311: Bidwell-----	C	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
312: Bitner-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ashcamp-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
313: Bombadil-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Brubeck-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
314: Bombadil-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Ceejay-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
315: Bombadil-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chime-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
316: Bombadil-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Grassycan-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
317: Bombadil-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Saraph-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
318: Boulder Lake-----	D	Negligible	January	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			February	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			March	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			April	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			May	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			June	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
319: Boulderfan-----	B	Medium	January	4.0-5.0	>6.0	---	---	None	---	None
			February	4.0-5.0	>6.0	---	---	None	Very brief	Rare
			March	4.0-5.0	>6.0	---	---	None	Very brief	Rare
			April	3.5-5.0	>6.0	---	---	None	Very brief	Rare
			May	4.0-5.0	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
320: Bregar-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
321: Bregar-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cavin-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Brownsbowl-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
322: Brownsbowl-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cowbell-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
323: Brownsbowl-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hashwoods-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
324: Brubeck-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Diaz-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
325: Bucklake-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Bombadil-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Reywat-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
326: Bucklake-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Fiddler-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
327: Bucklake-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Mcwatt-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rubble land-----	---	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
328: Bucklake-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Reywat-----			D	Very high	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
329: Bucklake-----	D	Very high			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Corral-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
330: Bucklake-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Softscrabble-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Devada-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
331: Buffaran-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Fulstone-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
332: Bullump-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
333: Buntingville-----	C	Low	January	---	---	---	---	None	---	None
			February	3.0-4.0	>6.0	---	---	None	Brief	Frequent
			March	3.0-4.0	>6.0	---	---	None	Brief	Frequent
			April	3.0-4.0	>6.0	---	---	None	Brief	Frequent
			May	3.0-4.0	>6.0	---	---	None	Brief	Frequent
			June	3.0-4.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
334: Buntingville-----	C	Low	January	---	---	---	---	None	---	None
			February	3.0-4.0	>6.0	---	---	None	Brief	Frequent
			March	3.0-4.0	>6.0	---	---	None	Brief	Frequent
			April	3.0-4.0	>6.0	---	---	None	Brief	Frequent
			May	3.0-4.0	>6.0	---	---	None	Brief	Frequent
			June	3.0-4.0	>6.0	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
335: Cavin-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ashtre-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hutchley-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
336: Cavin-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cowbell-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Rubble land-----	---	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
337: Cavin-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hutchley-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
338: Cavin-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nutzan-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Snag-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
339: Cavin-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nutzan-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tusune-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
340: Chalco-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chalco-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pickup-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
341: Chalco-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pickup-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
342: Chalco-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Saraph-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tuffo-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
343: Chalco-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Verdico-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Skedaddle-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
344: Coppersmith-----	B	Medium		Ft	Ft	Ft				
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Bareranch-----	B	Medium								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
345: Cormol-----	D	Very high								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bucklake-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Devada-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
346: Couch-----	D	Medium	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
347: Couch-----	D	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
348: Couch-----	D	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
349: Couch-----	D	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Jesayno-----	C	Low	January	---	---	---	---	None	Very brief	Occasional
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	Very brief	Occasional
350: Couch-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nevadash-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
351: Cowbell-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Brownsbowl-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
352: Crazybird-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Warnermount, warm-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Crazybird-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
353: Crazybird-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Welltomas-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
354: Crutcher-----	A	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			March	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			April	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			May	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			June	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			July	3.3-5.0	5.0-6.0	---	---	None	---	None
			August	3.3-5.0	5.0-6.0	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
355: Crutcher-----	A	Very low								
			January	---	---	---	---	None	Very brief	Rare
			February	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			March	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			April	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			May	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			June	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			July	3.3-5.0	5.0-6.0	---	---	None	---	None
			August	3.3-5.0	5.0-6.0	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Isolde-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
356: Cuminvar-----	D	High								
			January	0.0-2.0	>6.0	---	---	None	---	None
			February	0.0-2.0	>6.0	---	---	None	---	None
			March	0.0-2.0	>6.0	---	---	None	---	None
			April	0.0-2.0	>6.0	---	---	None	---	None
			May	0.0-2.0	>6.0	---	---	None	---	None
			June	0.0-2.0	>6.0	---	---	None	---	None
			July	0.0-2.0	>6.0	---	---	None	---	None
			August	0.0-2.0	>6.0	---	---	None	---	None
			September	2.0-3.0	>6.0	---	---	None	---	None
			October	2.0-3.0	>6.0	---	---	None	---	None
			November	2.0-3.0	>6.0	---	---	None	---	None
December	0.0-2.0	>6.0	---	---	None	---	None			
357: Cuminvar-----	D	Very high								
			January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	---	None
			April	1.0-2.0	>6.0	---	---	None	---	None
			May	1.0-2.0	>6.0	---	---	None	---	None
			June	1.0-2.0	>6.0	---	---	None	---	None
			July	1.0-2.0	>6.0	---	---	None	---	None
			August	1.0-2.0	>6.0	---	---	None	---	None
			September	2.0-3.0	>6.0	---	---	None	---	None
			October	2.0-3.0	>6.0	---	---	None	---	None
			November	2.0-3.0	>6.0	---	---	None	---	None
December	1.0-2.0	>6.0	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
358: Cummins-----	C/D	Very high	January	---	---	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			May	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	3.0-5.0	>6.0	---	---	None	---	None
			August	3.0-5.0	>6.0	---	---	None	---	None
			September	3.0-5.0	>6.0	---	---	None	---	None
			October	3.0-5.0	>6.0	---	---	None	---	None
			November	1.5-3.0	>6.0	---	---	None	---	None
			December	1.0-2.0	>6.0	---	---	None	---	None
359: Cummins-----	C/D	Very high	January	0.5-2.0	>6.0	---	---	None	---	None
			February	0.5-2.0	>6.0	---	---	None	---	None
			March	0.5-2.0	>6.0	---	---	None	---	None
			April	0.5-2.0	>6.0	---	---	None	---	None
			May	0.5-2.0	>6.0	---	---	None	---	None
			June	1.5-3.0	>6.0	---	---	None	---	None
			July	3.0-5.0	>6.0	---	---	None	---	None
			August	3.0-5.0	>6.0	---	---	None	---	None
			September	3.0-5.0	>6.0	---	---	None	---	None
			October	3.0-5.0	>6.0	---	---	None	---	None
			November	1.5-3.0	>6.0	---	---	None	---	None
			December	0.5-2.0	>6.0	---	---	None	---	None
360: Dangvar-----	D	Medium	January	1.5-3.0	>6.0	---	---	None	Brief	Rare
			February	1.5-3.0	>6.0	---	---	None	Brief	Rare
			March	1.5-3.0	>6.0	---	---	None	Brief	Rare
			April	1.5-3.0	>6.0	---	---	None	Brief	Rare
			May	1.5-3.0	>6.0	---	---	None	Brief	Rare
			June	1.5-3.0	>6.0	---	---	None	Brief	Rare
			July	1.5-3.0	>6.0	---	---	None	Brief	Rare
			August	3.0-5.0	>6.0	---	---	None	Brief	Rare
			September	3.0-5.0	>6.0	---	---	None	Brief	Rare
			October	3.0-5.0	>6.0	---	---	None	Brief	Rare
			November	3.0-5.0	>6.0	---	---	None	Brief	Rare
			December	1.5-3.0	>6.0	---	---	None	Brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
361: Dangvar-----	D	Medium	January	3.0-5.0	>6.0	---	---	None	Brief	Rare
			February	3.0-5.0	>6.0	---	---	None	Brief	Rare
			March	3.0-5.0	>6.0	---	---	None	Brief	Rare
			April	3.0-5.0	>6.0	---	---	None	Brief	Rare
			May	3.0-5.0	>6.0	---	---	None	Brief	Rare
			June	3.0-5.0	>6.0	---	---	None	Brief	Rare
			July	3.0-5.0	>6.0	---	---	None	Brief	Rare
			August	4.0-5.0	>6.0	---	---	None	Brief	Rare
			September	4.0-5.0	>6.0	---	---	None	Brief	Rare
			October	4.0-5.0	>6.0	---	---	None	Brief	Rare
			November	4.0-5.0	>6.0	---	---	None	Brief	Rare
			December	3.0-5.0	>6.0	---	---	None	Brief	Rare
362: Davey-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
363: Dawgbuffer-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
364: Devada-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bieber-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
365: Devada-----	D	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Bucklake-----			D	High	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
366: Devada-----	D	High			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bucklake-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
367: Devada-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Dosie-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rubble land-----	---	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
368: Devada-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Dodie-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
369: Devada-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hart Camp-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tunnison-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
370: Devada-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Nitpac-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Uhaldi-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
371: Devada-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Reywat-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
372: Devada-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Reywat-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bitner-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
373: Devada-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Reywat-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
374: Devada-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Reywat-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Rubble land-----	---	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
375: Devada-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
376: Devada-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
377: Devada-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tuledad-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
378: Devada-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Tuledad-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
379: Dismalswamp-----	B/D	Negligible	January	0.0-1.0	>6.0	---	---	None	Brief	Rare
February			0.0-1.5	>6.0	---	---	None	Brief	Rare	
March			0.0-1.5	>6.0	---	---	None	Brief	Rare	
April			0.0-1.5	>6.0	0.0-0.3	Long	Occasional	Brief	Rare	
May			0.0-1.5	>6.0	0.0-0.3	Long	Occasional	Brief	Rare	
June			0.0-1.5	>6.0	0.0-0.3	Long	Occasional	Brief	Rare	
July			1.7-2.5	>6.0	---	---	None	Brief	Rare	
August			1.7-2.5	>6.0	---	---	None	Brief	Rare	
September			1.7-2.5	>6.0	---	---	None	Brief	Rare	
October			1.7-2.5	>6.0	---	---	None	Brief	Rare	
November			1.7-2.5	>6.0	---	---	None	Brief	Rare	
December			0.0-1.5	>6.0	---	---	None	Brief	Rare	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding		
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency	
Dismalswamp, wet-----	B/D	Negligible		Ft	Ft	Ft					
			January	0.0-0.5	>6.0	---	---	None	Brief	Rare	
			February	0.0-0.5	>6.0	---	---	None	Brief	Rare	
			March	0.0-0.5	>6.0	---	---	None	Brief	Rare	
			April	0.0-0.5	>6.0	0.0-0.7	Long	Frequent	Brief	Rare	
			May	0.0-0.5	>6.0	0.0-0.7	Long	Frequent	Brief	Rare	
			June	0.0-0.5	>6.0	0.0-0.7	Long	Frequent	Brief	Rare	
			July	0.0-0.5	>6.0	---	---	None	Brief	Rare	
			August	0.0-0.5	>6.0	---	---	None	Brief	Rare	
			September	0.0-0.5	>6.0	---	---	None	Brief	Rare	
			October	0.0-0.5	>6.0	---	---	None	Brief	Rare	
			November	0.0-0.5	>6.0	---	---	None	Brief	Rare	
			December	0.0-0.5	>6.0	---	---	None	Brief	Rare	
380: Donica-----	A	Very low	January	---	---	---	---	None	---	None	
			February	---	---	---	---	None	---	None	
			March	---	---	---	---	None	---	None	
			April	---	---	---	---	None	---	None	
			May	---	---	---	---	None	---	None	
			June	---	---	---	---	None	---	None	
			July	---	---	---	---	None	---	None	
			August	---	---	---	---	None	---	None	
			September	---	---	---	---	None	---	None	
			October	---	---	---	---	None	---	None	
			November	---	---	---	---	None	---	None	
			December	---	---	---	---	None	---	None	
			381: Donica-----	A	Medium	January	---	---	---	---	None
February	---	---				---	---	None	---	None	
March	---	---				---	---	None	---	None	
April	---	---				---	---	None	---	None	
May	---	---				---	---	None	---	None	
June	---	---				---	---	None	---	None	
July	---	---				---	---	None	---	None	
August	---	---				---	---	None	---	None	
September	---	---				---	---	None	---	None	
October	---	---				---	---	None	---	None	
November	---	---				---	---	None	---	None	
December	---	---				---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
382: Donica-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
383: Donica-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
384: Donica-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
385: Donica-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Surprise-----	A	Low								
			January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	Brief	Rare
386: Dosie-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Cormol-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
387: Dosie-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Fiddler-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Rubble land-----	---	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
388: Dosie-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rubble land-----	---	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
389: Dosie-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
390: Emagert-----	C	Low								
			January	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			February	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			March	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			April	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			May	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
391: Emagert-----	C	Low	January	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			February	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			March	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			April	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			May	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Wetvit-----	C/D	Very high	January	0.0-1.0	>6.0	---	---	None	Long	Frequent
			February	0.0-1.0	>6.0	---	---	None	Long	Frequent
			March	0.0-1.0	>6.0	---	---	None	Long	Frequent
			April	0.0-1.0	>6.0	---	---	None	Long	Frequent
			May	0.0-1.0	>6.0	---	---	None	Long	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
392: Emamount-----	C	Low	January	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			February	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			March	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			April	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			May	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Grimlake-----	D	Medium		Ft	Ft	Ft				
			January	2.3-2.9	3.3-4.0	---	---	None	---	None
			February	2.3-2.9	3.3-4.0	---	---	None	---	None
			March	2.3-2.9	3.3-4.0	---	---	None	---	None
			April	2.3-2.9	3.3-4.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
393: Esmod-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			394: Esmod-----	D	High	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hangrock-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
395: Esmod-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Powlow-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
396: Ferver-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
397: Ferver-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tunnison-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
398: Fitzwater-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Westbutte-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
399: Fluvaquents-----	B/D	Very high	January	0.0-3.0	>6.0	---	---	None	Long	Frequent
			February	0.0-3.0	>6.0	---	---	None	Long	Frequent
			March	0.0-3.0	>6.0	---	---	None	Long	Frequent
			April	0.0-3.0	>6.0	---	---	None	Long	Frequent
			May	0.5-2.5	>6.0	---	---	None	Long	Frequent
			June	1.5-3.3	>6.0	---	---	None	---	None
			July	2.5-4.2	>6.0	---	---	None	---	None
			August	2.5-4.2	>6.0	---	---	None	---	None
			September	2.5-4.2	>6.0	---	---	None	---	None
			October	2.5-4.2	>6.0	---	---	None	---	None
			November	2.5-4.2	>6.0	---	---	None	---	None
			December	0.0-3.0	>6.0	---	---	None	Long	Frequent

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Riverwash-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	Long	Frequent
			February	---	---	---	---	None	Long	Frequent
			March	---	---	---	---	None	Long	Frequent
			April	---	---	---	---	None	Long	Frequent
			May	---	---	---	---	None	Long	Frequent
			June	---	---	---	---	None	Long	Frequent
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	Long	Frequent			
400: Four Star-----	B	Low								
			January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			March	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			April	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			May	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			June	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			July	3.0-4.0	>6.0	---	---	None	---	None
			August	3.0-4.0	>6.0	---	---	None	---	None
			September	3.0-4.0	>6.0	---	---	None	---	None
			October	3.0-4.0	>6.0	---	---	None	---	None
			November	3.0-4.0	>6.0	---	---	None	---	None
December	2.0-3.0	>6.0	---	---	None	---	None			
401: Four Star-----	B	Low								
			January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			March	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			April	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			May	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			June	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			July	3.0-4.0	>6.0	---	---	None	---	None
			August	3.0-4.0	>6.0	---	---	None	---	None
			September	3.0-4.0	>6.0	---	---	None	---	None
			October	3.0-4.0	>6.0	---	---	None	---	None
			November	3.0-4.0	>6.0	---	---	None	---	None
December	2.0-3.0	>6.0	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
402: Four Star-----	B	Low	January	2.0-3.0	>6.0	---	---	None	---	None
			February	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			March	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			April	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			May	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			June	2.0-3.0	>6.0	---	---	None	Brief	Occasional
			July	3.0-4.0	>6.0	---	---	None	---	None
			August	3.0-4.0	>6.0	---	---	None	---	None
			September	3.0-4.0	>6.0	---	---	None	---	None
			October	3.0-4.0	>6.0	---	---	None	---	None
			November	3.0-4.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
403: Four Star-----	B/D	Very high	January	1.0-2.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			March	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			May	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.0	>6.0	---	---	None	---	None
			August	2.0-3.0	>6.0	---	---	None	---	None
			September	2.0-3.0	>6.0	---	---	None	---	None
			October	2.0-3.0	>6.0	---	---	None	---	None
			November	2.0-3.0	>6.0	---	---	None	---	None
			December	1.0-2.0	>6.0	---	---	None	---	None
404: Freznik-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
405: Fulstone-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			Nellspring-----	D	High	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
Buffaran-----	D	High				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
406: Fulstone-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Saraph-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tuffo-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
407: Gorzell-----	C	Medium	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Old Camp-----			D	High	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
408: Gorzell-----	C	Medium			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Saraph-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
409: Grassycan-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Grassycan-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
410: Grassycan-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
411: Gurlidawg-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
412: Gurlidawg-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
413: Gurlidawg-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
414: Gurlidawg-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
415: Halvert-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Jaybee-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tunnison-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
416: Hangrock-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
417: Harskel-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Brownsbowl-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Cowbell-----	B	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
418: Harskel-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Menbo-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
419: Harskel-----	D	High		Ft	Ft	Ft				
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Ninemile-----	D	High								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Cowbell-----	B	Medium								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
420: Hart Camp-----	D	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Menbo-----			D	Very high	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
421: Hart Camp-----	D	High			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Ninemile-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
422: Hart Camp, moist-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Runyon-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Ashtre-----	C	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
423: Hart Camp-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
424: Hartner-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Sesdah-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
425: Home Camp-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Runyon-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
426: Hovey-----	D	Medium	January	2.0-3.0	>6.0	---	---	None	Brief	Rare
			February	2.0-3.0	>6.0	---	---	None	Brief	Rare
			March	2.0-3.0	>6.0	---	---	None	Brief	Rare
			April	2.0-3.0	>6.0	---	---	None	Brief	Rare
			May	2.0-3.0	>6.0	---	---	None	Brief	Rare
			June	2.0-3.0	>6.0	---	---	None	Brief	Rare
			July	2.0-3.0	>6.0	---	---	None	Brief	Rare
			August	3.0-4.0	>6.0	---	---	None	Brief	None
			September	3.0-4.0	>6.0	---	---	None	Brief	None
			October	3.0-4.0	>6.0	---	---	None	Brief	None
			November	2.0-3.0	>6.0	---	---	None	Brief	Rare
			December	2.0-3.0	>6.0	---	---	None	Brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
427: Hussa-----	C	Low	January	4.0-5.0	>6.0	---	---	None	---	None
			February	3.0-4.0	>6.0	---	---	None	---	None
			March	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			April	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			May	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			June	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	4.0-5.0	>6.0	---	---	None	---	None
428: Hussa-----	C	Low	January	4.0-5.0	>6.0	---	---	None	Brief	Rare
			February	3.0-4.0	>6.0	---	---	None	Brief	Rare
			March	3.0-4.0	>6.0	---	---	None	Brief	Rare
			April	3.0-4.0	>6.0	---	---	None	Brief	Rare
			May	3.0-4.0	>6.0	---	---	None	Brief	Rare
			June	3.0-4.0	>6.0	---	---	None	Brief	Rare
			July	4.0-5.0	>6.0	---	---	None	Brief	Rare
			August	4.0-5.0	>6.0	---	---	None	Brief	Rare
			September	4.0-5.0	>6.0	---	---	None	Brief	Rare
			October	4.0-5.0	>6.0	---	---	None	Brief	Rare
			November	4.0-5.0	>6.0	---	---	None	Brief	Rare
			December	4.0-5.0	>6.0	---	---	None	Brief	Rare
429: Hussa-----	C	Low	January	5.0-6.0	>6.0	---	---	None	Brief	Rare
			February	3.0-4.0	>6.0	---	---	None	Brief	Rare
			March	3.0-4.0	>6.0	---	---	None	Brief	Rare
			April	3.0-4.0	>6.0	---	---	None	Brief	Rare
			May	3.0-4.0	>6.0	---	---	None	Brief	Rare
			June	3.0-4.0	>6.0	---	---	None	Brief	Rare
			July	5.0-6.0	>6.0	---	---	None	Brief	Rare
			August	5.0-6.0	>6.0	---	---	None	Brief	Rare
			September	5.0-6.0	>6.0	---	---	None	Brief	Rare
			October	5.0-6.0	>6.0	---	---	None	Brief	Rare
			November	5.0-6.0	>6.0	---	---	None	Brief	Rare
			December	5.0-6.0	>6.0	---	---	None	Brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
430: Hussa-----	C	Low	January	4.0-5.0	>6.0	---	---	None	---	None
			February	3.0-4.0	>6.0	---	---	None	---	None
			March	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			April	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			May	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			June	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	4.0-5.0	>6.0	---	---	None	---	None
431: Hussa-----	C	Low	January	4.0-5.0	>6.0	---	---	None	---	None
			February	3.0-4.0	>6.0	---	---	None	---	None
			March	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			April	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			May	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			June	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	4.0-5.0	>6.0	---	---	None	---	None
432: Hussa-----	C	Low	January	4.0-5.0	>6.0	---	---	None	---	None
			February	3.0-4.0	>6.0	---	---	None	---	None
			March	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			April	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			May	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			June	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	4.0-5.0	>6.0	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
433: Hussa-----	C/D	Very high	January	4.0-5.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			May	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.0	>6.0	---	---	None	---	None
			August	4.0-5.0	>6.0	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	4.0-5.0	>6.0	---	---	None	---	None
434: Hussa-----	C/D	Very high	January	2.0-3.0	>6.0	---	---	None	---	None
			February	1.0-2.0	>6.0	---	---	None	---	None
			March	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			April	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			May	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			June	1.0-2.0	>6.0	---	---	None	Brief	Occasional
			July	2.0-3.0	>6.0	---	---	None	---	None
			August	3.0-4.0	>6.0	---	---	None	---	None
			September	3.0-4.0	>6.0	---	---	None	---	None
			October	3.0-4.0	>6.0	---	---	None	---	None
			November	3.0-4.0	>6.0	---	---	None	---	None
			December	2.0-3.0	>6.0	---	---	None	---	None
435: Hussa-----	C	Low	January	3.0-4.0	>6.0	---	---	None	---	None
			February	3.0-4.0	>6.0	---	---	None	---	None
			March	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			April	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			May	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			June	3.0-4.0	>6.0	---	---	None	Brief	Occasional
			July	4.0-5.0	>6.0	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	4.0-5.0	>6.0	---	---	None	---	None
			October	4.0-5.0	>6.0	---	---	None	---	None
			November	4.0-5.0	>6.0	---	---	None	---	None
			December	3.0-4.0	>6.0	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Couch-----	D	Medium	January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	Brief	Rare
436: Hutchley-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ashtre-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
437: Hutchley-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cavin-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Brownsbowl-----	A	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
438: Hutchley-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cavin-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Zorromount-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
439: Hutchley-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Mosquet-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Brownsbowl-----	A	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
440: Hutchley-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ninemile-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nutzan-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
441: Hutchley-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
442: Indian Creek-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Buffaran-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
443: Jaybee-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Verdico-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
444: Keddie-----	B/D	Very high	January	0.0-1.5	>6.0	---	---	None	Brief	Rare
			February	0.0-1.5	>6.0	---	---	None	Brief	Rare
			March	0.0-1.5	>6.0	---	---	None	Brief	Rare
			April	0.0-1.5	>6.0	---	---	None	Brief	Rare
			May	0.0-1.5	>6.0	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	Brief	Rare
445: Leviathan-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
446: Lolak-----	D	Very high	January	3.0-5.0	>6.0	---	---	None	---	Rare
			February	2.0-3.0	>6.0	---	---	None	---	Rare
			March	0.5-2.0	>6.0	---	---	None	---	Rare
			April	0.5-2.0	>6.0	---	---	None	---	Rare
			May	0.5-2.0	>6.0	---	---	None	---	Rare
			June	0.5-2.0	>6.0	---	---	None	---	Rare
			July	2.0-3.0	>6.0	---	---	None	---	Rare
			August	3.0-5.0	>6.0	---	---	None	---	Rare
			September	3.0-5.0	>6.0	---	---	None	---	Rare
			October	3.0-5.0	>6.0	---	---	None	---	Rare
			November	3.0-5.0	>6.0	---	---	None	---	Rare
			December	3.0-5.0	>6.0	---	---	None	---	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
447: Longdis-----	D	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Dugway-----	D	Medium								
			January	5.0-6.0	>6.0	---	---	None	---	None
			February	5.0-6.0	>6.0	---	---	None	---	None
			March	5.0-6.0	>6.0	---	---	None	---	None
			April	5.0-6.0	>6.0	---	---	None	---	None
			May	5.0-6.0	>6.0	---	---	None	---	None
			June	5.0-6.0	>6.0	---	---	None	---	None
			July	5.0-6.0	>6.0	---	---	None	---	None
			August	5.0-6.0	>6.0	---	---	None	---	None
			September	5.0-6.0	>6.0	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
448: Longval-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
449: Lotawaca-----	B	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
450: Lotawaca-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
451: Lyonman-----	B	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
452: Lyonman-----	B	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
453: Lyonman-----	B	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
454: Lyonman, cool-----	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
455: Macnot-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
456: Macnot-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Glasshawk-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
457: Macnot-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Gorzell-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Macnot, nearly level-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
458: Macnot, nearly level-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Jesayno-----	C	Low								
			January	---	---	---	---	None	Very brief	Occasional
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	Very brief	Occasional
Nevadash-----	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
459: Macnot-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Mcwatt-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Old Camp-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
460: Macnot-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Macnot, nearly level-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nomazu, moderately saline-	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
461: Madeline-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Sumine-----	C	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
462: Mazuma-----	A	Very low	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bighat-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
463: Mcwatt-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Old Camp-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
464: Mcowatt-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Skedaddle-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
465: Medved-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
466: Menbo-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Badgercamp-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
467: Nevadash-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
468: Nevadash-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
469: Nevadash-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
470: Nevadash-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Couch-----	D	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
471: Nevadash-----	B	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Gorzell-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
472: Nevadash-----	B	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Jesayno-----	C	Low	January	---	---	---	---	None	Very brief	Occasional
			February	---	---	---	---	None	Very brief	Occasional
			March	---	---	---	---	None	Very brief	Occasional
			April	---	---	---	---	None	Very brief	Occasional
			May	---	---	---	---	None	Very brief	Occasional
			June	---	---	---	---	None	Very brief	Occasional
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	Very brief	Occasional

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
473: Nevadash-----	B	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Saraph-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
474: Newlands-----	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Menbo-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
475: Ninemile-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hutchley-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Crocan-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
476: Ninemile-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Karlo-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Crocan-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
477: Ninemile-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Madeline-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Crocan-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
478: Ninemile-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Madeline-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Softscrabble-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
479: Ninemile-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Madeline-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Tinpan-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
480: Ninemile-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Softscrabble-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Crocan-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
481: Ninemile-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Westbutte-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Softscrabble-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
482: Nitpac-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tunnison-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bidrim-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
483: Nitpac-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tunnison-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Devada-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
484: Nomazu-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Macnot-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
485: Nomazu, moderately saline-	A	Very low		Ft	Ft	Ft				
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Ragtown-----	D	Medium								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
486: Nopeg-----	D	Medium								
January			---	---	---	---	None	Very brief	Rare	
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
April			---	---	---	---	None	Very brief	Rare	
May			---	---	---	---	None	Very brief	Rare	
June			---	---	---	---	None	Very brief	Rare	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	Very brief	Rare	
November			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Pegler-----	D	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
487: Nowack-----	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
488: Nowack-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
489: Nowack-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Fendersflat, cool-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
490: Nutzan-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Cavin-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ashtre-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
491: Nutzan-----	A	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hutchley-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tusune-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
492: Nutzan-----	A	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Tusune-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ashtre-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
493: Observation-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Searles-----	C	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Madeline-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
494: Old Camp-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
495: Old Camp-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
496: Old Camp-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
497: Old Camp-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Ceejay-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
498: Old Camp-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Gorzell-----	C	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Macnot-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
499: Old Camp-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Mcwatt-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
500: Old Camp-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Reywat-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rubble land-----	---	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
501: Old Camp-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Saraph-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
502: Old Camp-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Skedaddle-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
503: Paynepeak-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
504: Paynepeak-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Skidbrackle-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
505: Paynepeak-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Fendersflat-----	C	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
506: Paynepeak-----	B	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Fendersflat, cool-----			C	Very high	January	---	---	---	---	None
February	---	---			---	---	None	---	None	
March	---	---			---	---	None	---	None	
April	---	---			---	---	None	---	None	
May	---	---			---	---	None	---	None	
June	---	---			---	---	None	---	None	
July	---	---			---	---	None	---	None	
August	---	---			---	---	None	---	None	
September	---	---			---	---	None	---	None	
October	---	---			---	---	None	---	None	
November	---	---			---	---	None	---	None	
December	---	---			---	---	None	---	None	
507: Paynepeak-----	B	High			January	---	---	---	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Fendersflat-----	C	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
508: Paynepeak-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Fendersflat-----	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Pyropatti, cool-----	B	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	2.5-4.2	3.3-5.0	---	---	None	---	None
			May	2.5-4.2	3.3-5.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
509: Paynepeak-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Fingerridge-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
520: Paynepeak-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pyropatti, cool-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	2.5-4.2	3.3-5.0	---	---	None	---	None
			May	2.5-4.2	3.3-5.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Fingerridge-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
521: Paynepeak-----	B	Medium	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Skidbrackle-----	D	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
522: Paypoint-----	C	Low	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Langston-----	C	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
523: Pickup-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bucklake-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
524: Pickup-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nosavvy-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Skedaddle-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
525: Pits, gravel-----	A	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
526: Pits, mine-----	---	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Dumps, mine-----	---	---	Jan-Dec	---	---	---	---	None	---	---
527: Playas-----	D	Negligible	January	---	---	---	---	None	---	None
			February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			May	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			June	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			July	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			August	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			September	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
528: Pyropatti, cool-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	2.5-4.2	3.3-5.0	---	---	None	---	None
			May	2.5-4.2	3.3-5.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pyropatti-----	B	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	2.5-4.2	3.3-5.0	---	---	None	---	None
			May	2.5-4.2	3.3-5.0	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
529: Raglan-----	C	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
530: Raglan-----	C	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Crutcher-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			March	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			April	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			May	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			June	3.3-5.0	5.0-6.0	---	---	None	Very brief	Rare
			July	3.3-5.0	5.0-6.0	---	---	None	---	None
			August	3.3-5.0	5.0-6.0	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
531: Raglan-----	C	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Isolde-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
532: Raglan-----	C	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Mazuma-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
533: Redhome-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cowbell-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
534: Redhome-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Softscrabble-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
535: Reywat-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
536: Reywat-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
537: Reywat-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Devada-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
538: Reywat-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Fernpoint-----	C	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
539: Reywat-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Marepas-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
540: Reywat-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Marepas-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
541: Rubble land-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
542: Rodock-----	C	Low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
543: Rubble land-----	---	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Dosie-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Menbo-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
544: Rubble land-----	---	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Home Camp-----	C	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
545: Rubble land-----	---	---								
			Jan-Dec	---	---	---	---	None	---	---
Paynepeak-----	B	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
546: Runyon-----	B	High		Ft	Ft	Ft				
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Hapgood-----	B	Medium								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
547: Saltmount-----	B	Low								
January			---	---	---	---	None	Very brief	Rare	
February			---	---	---	---	None	Very brief	Rare	
March			---	---	---	---	None	Very brief	Rare	
April			---	---	---	---	None	Very brief	Rare	
May			---	---	---	---	None	Very brief	Rare	
June			---	---	---	---	None	Very brief	Rare	
July			---	---	---	---	None	Very brief	Rare	
August			---	---	---	---	None	Very brief	Rare	
September			---	---	---	---	None	Very brief	Rare	
October			---	---	---	---	None	Very brief	Rare	
November			---	---	---	---	None	Very brief	Rare	
December			---	---	---	---	None	Very brief	Rare	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Saltmount-----	B	High	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
548: Saraph-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Ashcamp-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bitner-----	C	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
549: Bombadil-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Saraph-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Macnot, nearly level-----	A	Very low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
550: Saraph-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Chalco-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
551: Saraph-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Chalco-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bombadil-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
552: Saraph-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			Hangrock-----	D	High	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
Tuffo-----	D	Very high				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
553: Saraph-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Macnot, nearly level-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tuffo-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
554: Saraph-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nosavvy-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tuffo-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
555: Saraph-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Old Camp-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Skedaddle-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
556: Saraph-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
			Tuffo-----	D	Very high	January	---	---	---	---
February	---	---				---	---	None	---	None
March	---	---				---	---	None	---	None
April	---	---				---	---	None	---	None
May	---	---				---	---	None	---	None
June	---	---				---	---	None	---	None
July	---	---				---	---	None	---	None
August	---	---				---	---	None	---	None
September	---	---				---	---	None	---	None
October	---	---				---	---	None	---	None
November	---	---				---	---	None	---	None
December	---	---				---	---	None	---	None
Old Camp-----	D	High				January	---	---	---	---
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
557: Saraph-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Tuffo-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Yellowhills-----	A	Very low	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	---	---	---	---	None	Very brief	Rare
			April	---	---	---	---	None	Very brief	Rare
			May	---	---	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
558: Schamp-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
559: Schamp-----	C	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
560: Sedsked-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Skedaddle-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
561: Simpson-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
562: Simpson-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
563: Simpson-----	D	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
564: Skullwak-----	D	Medium								
			January	1.5-3.0	>6.0	---	---	None	Brief	Frequent
			February	1.5-3.0	>6.0	---	---	None	Brief	Frequent
			March	1.5-3.0	>6.0	---	---	None	Brief	Frequent
			April	1.5-3.0	>6.0	---	---	None	Brief	Frequent
			May	1.5-3.0	>6.0	---	---	None	Brief	Frequent
			June	1.5-3.0	>6.0	---	---	None	Brief	Frequent
			July	1.5-3.0	>6.0	---	---	None	---	None
			August	1.5-3.0	>6.0	---	---	None	---	None
			September	1.5-3.0	>6.0	---	---	None	---	None
			October	1.5-3.0	>6.0	---	---	None	Brief	Frequent
			November	1.5-3.0	>6.0	---	---	None	Brief	Frequent
			December	1.5-3.0	>6.0	---	---	None	Brief	Frequent
565: Snag-----	B	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Brownsbowl-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hashwoods-----	A	Low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
566: Softscrabble-----	D	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
567: Softscrabble-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Dosie-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hutchley-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
568: Softscrabble-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hart Camp-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
569: Softscrabble-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Sumine-----	C	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Hutchley-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
570: Soughe-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
571: Soughe-----	D	Very high	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
572: Steerlake-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Reywat-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
573: Steerlake-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Wylo-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
574: Surprise-----	A	Very low								
			January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	Brief	Rare
575: Surprise-----	A	Very low								
			January	---	---	---	---	None	Brief	Rare
			February	---	---	---	---	None	Brief	Rare
			March	---	---	---	---	None	Brief	Rare
			April	---	---	---	---	None	Brief	Rare
			May	---	---	---	---	None	Brief	Rare
			June	---	---	---	---	None	Brief	Rare
			July	---	---	---	---	None	Brief	Rare
			August	---	---	---	---	None	Brief	Rare
			September	---	---	---	---	None	Brief	Rare
			October	---	---	---	---	None	Brief	Rare
			November	---	---	---	---	None	Brief	Rare
			December	---	---	---	---	None	Brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
576: Tuledad-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Nitpac-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bidrim-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
577: Tunnison-----	D	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Devada-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bidrim-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
578: Tunnison-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
	November	---	---	---	---	None	---	None		
	December	---	---	---	---	None	---	None		
Tuledad-----	D	Medium								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
579: Tusune-----	B	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hartig-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
580: Updike-----	D	Medium	January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			April	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			May	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Longdis-----	D	Medium	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
581: Updike-----	D	Medium		Ft	Ft	Ft				
			January	---	---	---	---	None	Very brief	Rare
			February	---	---	---	---	None	Very brief	Rare
			March	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			April	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			May	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare
Mazuma-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
582: Valmy-----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
583: Warnermount, warm-----	B	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
584: Warnermount-----	B	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Burningman-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
585: Warnermount-----	B	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Crazybird-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
587: Weezweed-----	C	Low								
			January	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			February	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			March	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			April	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			May	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
			December	---	---	---	---	None	Very brief	Rare

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Emagert-----	C	Low		Ft	Ft	Ft				
			January	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			February	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			March	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			April	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			May	5.0-6.0	>6.0	---	---	None	Very brief	Rare
			June	---	---	---	---	None	Very brief	Rare
			July	---	---	---	---	None	Very brief	Rare
			August	---	---	---	---	None	Very brief	Rare
			September	---	---	---	---	None	Very brief	Rare
			October	---	---	---	---	None	Very brief	Rare
			November	---	---	---	---	None	Very brief	Rare
December	---	---	---	---	None	Very brief	Rare			
Wetvit-----	C/D	Very high								
			January	0.0-1.0	>6.0	---	---	None	Long	Frequent
			February	0.0-1.0	>6.0	---	---	None	Long	Frequent
			March	0.0-1.0	>6.0	---	---	None	Long	Frequent
			April	0.0-1.0	>6.0	---	---	None	Long	Frequent
			May	0.0-1.0	>6.0	---	---	None	Long	Frequent
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
588: Weimer-----	D	Negligible								
January			0.0	>6.0	0.0-1.0	Long	Frequent	---	None	
February			0.0	>6.0	0.0-1.0	Long	Frequent	---	None	
March			0.0	>6.0	0.0-1.0	Long	Frequent	---	None	
April			0.0	>6.0	0.0-1.0	Long	Frequent	---	None	
May			0.0	>6.0	0.0-1.0	Long	Frequent	---	None	
June			0.0	>6.0	0.0-1.0	Long	Frequent	---	None	
July			---	---	0.0-1.0	Long	Occasional	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December	0.0	>6.0	0.0-1.0	Long	Occasional	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
589: Weimer-----	D	Negligible	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			May	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			June	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			July	---	---	0.0-1.0	Long	Occasional	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	0.0	>6.0	0.0-1.0	Long	Occasional	---	None
Boulder Lake-----	D	Negligible	January	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			February	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			March	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			April	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			May	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			June	0.0	2.5-5.0	0.0-1.0	Long	Frequent	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
590: Weimer-----	D	Negligible	January	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			February	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			March	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			April	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			May	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			June	0.0	>6.0	0.0-1.0	Long	Frequent	---	None
			July	---	---	0.0-1.0	Long	Occasional	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	0.0	>6.0	0.0-1.0	Long	Occasional	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Grimlake-----	D	Medium		Ft	Ft	Ft				
			January	2.3-2.9	3.3-4.0	---	---	None	---	None
			February	2.3-2.9	3.3-4.0	---	---	None	---	None
			March	2.3-2.9	3.3-4.0	---	---	None	---	None
			April	2.3-2.9	3.3-4.0	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
591: Welch-----	C/D	Very high								
			January	0.0-1.5	>6.0	---	---	None	---	None
			February	0.0-1.5	>6.0	---	---	None	---	None
			March	0.0-1.5	>6.0	---	---	None	Brief	Occasional
			April	0.0-1.5	>6.0	---	---	None	Brief	Occasional
			May	0.0-1.5	>6.0	---	---	None	Brief	Occasional
			June	0.0-1.5	>6.0	---	---	None	Brief	Occasional
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	0.0-1.5	>6.0	---	---	None	---	None
December	0.0-1.5	>6.0	---	---	None	---	None			
592: Welltomas-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Hartner-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
593: Wylo-----	D	High	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Bucklake-----	D	Very high	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
594: Wylo-----	D	High	January	---	---	---	---	None	---	None
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Chalco-----	D	Very high		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
595: Wylo-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			
Pickup-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
December	---	---	---	---	None	---	None			

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
596: Wylo-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Pickup-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Bucklake-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
597: Wylo-----	D	High		Ft	Ft	Ft				
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Pickup-----	D	High								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	
Ceejay-----	D	High								
January			---	---	---	---	None	---	None	
February			---	---	---	---	None	---	None	
March			---	---	---	---	None	---	None	
April			---	---	---	---	None	---	None	
May			---	---	---	---	None	---	None	
June			---	---	---	---	None	---	None	
July			---	---	---	---	None	---	None	
August			---	---	---	---	None	---	None	
September			---	---	---	---	None	---	None	
October			---	---	---	---	None	---	None	
November			---	---	---	---	None	---	None	
December			---	---	---	---	None	---	None	

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
598: Wylo-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Rock outcrop-----	---	---								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
600: Zorravista-----	A	Very low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
				Ft	Ft	Ft				
601: Zorravista-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Davey-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Isolde-----	A	Very low	January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro-logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
602: Zorromount-----	A	Low		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hutchley-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Zorromount, snowpocket----	A	Low								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None

TABLE 16.--Water Features--Continued

Map symbol and soil name	Hydro- logic group	Surface runoff	Month	Water table		Ponding			Flooding	
				Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
603: Zymans-----	D	High		Ft	Ft	Ft				
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Cotant-----	D	High								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
Hart Camp-----	D	Very high								
			January	---	---	---	---	None	---	None
			February	---	---	---	---	None	---	None
			March	---	---	---	---	None	---	None
			April	---	---	---	---	None	---	None
			May	---	---	---	---	None	---	None
			June	---	---	---	---	None	---	None
			July	---	---	---	---	None	---	None
			August	---	---	---	---	None	---	None
			September	---	---	---	---	None	---	None
			October	---	---	---	---	None	---	None
			November	---	---	---	---	None	---	None
			December	---	---	---	---	None	---	None
999: Water-----	---	---	Jan-Dec	---	---	---	---	None	---	---

TABLE 17.--Soil Features

(See text for definitions of terms used in this table. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
		In	In				
300: Anawalt-----	Bedrock (lithic)	12-20	---	Indurated	Low	High	Low
Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
301: Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Ashdos-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
302: Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Ashdos-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
Tusune-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
303: Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Bitner-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
304: Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Crocan-----	Bedrock (lithic)	10-14	---	Indurated	Moderate	Moderate	Low
305: Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Nutzan-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Ashdos-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
306: Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Nutzan-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Cavin-----	---	---	---	---	Low	Low	Moderate
307: Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Tusune-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Brownsbowl-----	---	---	---	---	High	Moderate	Low
308: Bicondoa-----	---	---	---	---	High	High	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
309: Bicondoa-----	---	---	---	---	High	High	Low
Crutcher-----	---	---	---	---	Moderate	High	High
310: Bidwell-----	---	---	---	---	Moderate	High	Low
311: Bidwell-----	---	---	---	---	Moderate	High	Low
312: Bitner-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Ashcamp-----	Bedrock (paralithic)	7-14	---	Moderately cemented	Low	Moderate	Low
313: Bombadil-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Brubeck-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Low
314: Bombadil-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Ceejay-----	Bedrock (lithic)	14-20	---	Indurated	Low	High	Low
315: Bombadil-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Chime-----	Bedrock (paralithic)	20-30	---	Moderately cemented	Moderate	High	Low
316: Bombadil-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Grassycan-----	Duripan	7-14	0-1	Indurated	Low	Moderate	Low
	Bedrock (lithic)	7-14	---	Indurated			
317: Bombadil-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
318: Boulder Lake-----	---	---	---	---	Moderate	High	Low
319: Boulderfan-----	---	---	---	---	High	Moderate	Low
320: Bregar-----	Bedrock (lithic)	5-12	---	Indurated	Moderate	Moderate	Low
321: Bregar-----	Bedrock (lithic)	5-12	---	Indurated	Moderate	Moderate	Low
Cavin-----	---	---	---	---	Low	Low	Moderate
Brownsbowl-----	---	---	---	---	High	Moderate	Low
322: Brownsbowl-----	---	---	---	---	High	Moderate	Low
Cowbell-----	---	---	---	---	Moderate	Low	Moderate
323: Brownsbowl-----	---	---	---	---	High	Moderate	Low
Hashwoods-----	Bedrock (paralithic)	40-60	---	Moderately cemented	High	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
324:							
Brubeck-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Low
Diaz-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
325:							
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Bombadil-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
326:							
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Fiddler-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
327:							
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Mcwatt-----	Bedrock (lithic)	40-60	---	Indurated	Low	High	Low
Rubble land-----	Bedrock (lithic)	40-60	---	Indurated	None	---	---
328:							
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
329:							
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
Corral-----	Bedrock (paralithic)	12-20	---	Moderately cemented	Low	Moderate	Low
330:							
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
331:							
Buffaran-----	Duripan	14-20	4-17	Indurated	Low	High	Low
Fulstone-----	Duripan	14-20	4-17	Indurated	Moderate	High	Low
332:							
Bullump-----	---	---	---	---	Moderate	Moderate	Low
333:							
Buntingville-----	---	---	---	---	High	High	Moderate
334:							
Buntingville-----	---	---	---	---	High	High	Moderate
335:							
Cavin-----	---	---	---	---	Low	Low	Moderate
Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
336:							
Cavin-----	---	---	---	---	Low	Low	Moderate
Cowbell-----	---	---	---	---	Moderate	Low	Moderate

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
Rubble land-----	Bedrock (lithic)	40-60	---	Indurated	None	---	---
337: Cavin-----	---	---	---	---	Low	Low	Moderate
Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
338: Cavin-----	---	---	---	---	Low	Low	Moderate
Nutzan-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Snag-----	---	---	---	---	High	Moderate	Moderate
339: Cavin-----	---	---	---	---	Low	Low	Moderate
Nutzan-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Tusune-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
340: Chalco-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Low	Moderate	Low
Chalco-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Low	Moderate	Low
Pickup-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
341: Chalco-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
Pickup-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
342: Chalco-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Low	Moderate	Low
Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Tuffo-----	Bedrock (paralithic)	4-14	---	Moderately cemented	Moderate	Moderate	Low
343: Chalco-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Low	Moderate	Low
Verdico-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Skedaddle-----	Bedrock (lithic)	4-12	---	Indurated	Moderate	Moderate	Low
344: Coppersmith-----	---	---	---	---	Low	High	Low
Bareranch-----	Bedrock (paralithic)	40-60	---	Moderately cemented	---	Low	Low
345: Cormol-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Low	Moderate	Low
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
346: Couch-----	---	---	---	---	High	High	Moderate
347: Couch-----	---	---	---	---	High	High	Moderate
348: Couch-----	---	---	---	---	High	High	Moderate
349: Couch-----	---	---	---	---	High	High	Moderate
Jesayno-----	---	---	---	---	Moderate	High	Low
350: Couch-----	---	---	---	---	High	High	Moderate
Nevadash-----	---	---	---	---	Moderate	High	Low
351: Cowbell-----	---	---	---	---	Moderate	Low	Moderate
Brownsbowl-----	---	---	---	---	High	Moderate	Low
352: Crazybird-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low
Warnermount, warm-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
Crazybird-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low
353: Crazybird-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low
Welltomas-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
354: Crutcher-----	---	---	---	---	Moderate	High	High
355: Crutcher-----	---	---	---	---	Moderate	High	High
Isolde-----	---	---	---	---	Low	High	Low
356: Cuminvar-----	---	---	---	---	High	High	Low
357: Cuminvar-----	---	---	---	---	High	High	Low
358: Cummings-----	---	---	---	---	High	High	Low
359: Cummings-----	---	---	---	---	Moderate	High	High
360: Dangvar-----	Duripan	14-20	1-5	Strongly cemented	High	High	High
361: Dangvar-----	Duripan	14-20	1-5	Strongly cemented	High	High	High
362: Davey-----	---	---	---	---	Low	High	Low
363: Dawgbuffer-----	Bedrock (paralithic)	7-14	---	Moderately cemented	Moderate	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
Rock outcrop-----	---	In ---	In ---	---	---	---	---
364: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Bieber-----	Duripan	8-20	5-18	Indurated	Moderate	High	Low
365: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
366: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
367: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Dosie-----	Bedrock (lithic)	40-60	---	Indurated	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	40-60	---	Indurated	None	---	---
368: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Dosie-----	Bedrock (lithic)	40-60	---	Indurated	Low	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
369: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Hart Camp-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Moderate	Moderate	Low
Tunnison-----	Bedrock (paralithic)	20-35	---	Moderately cemented	Moderate	High	Low
	Bedrock (lithic)	30-40	---	Indurated			
370: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Nitpac-----	Duripan	20-40	4-17	Strongly cemented	Moderate	Moderate	Low
	Bedrock (paralithic)	24-40	---	Moderately cemented			
Uhaldi-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Moderate
371: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
372: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Bitner-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
373: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
Reywat-----	Bedrock (lithic)	In 10-20	In ---	Indurated	Moderate	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
374: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Rubble land-----	Bedrock (lithic)	40-60	---	Indurated	None	---	---
375: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
376: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
377: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Tuledad-----	Bedrock (lithic)	14-20	---	Indurated	Moderate	High	Low
378: Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Tuledad-----	Bedrock (lithic)	14-20	---	Indurated	Moderate	High	Low
Softscrabble-----	Bedrock (paralithic)	60-80	---	Moderately cemented	Moderate	Moderate	Low
379: Dismalswamp-----	---	---	---	---	High	Moderate	Low
Dismalswamp, wet-----	---	---	---	---	High	Moderate	Low
380: Donica-----	---	---	---	---	Moderate	Moderate	Low
381: Donica-----	---	---	---	---	Moderate	Moderate	Low
382: Donica-----	---	---	---	---	Moderate	Moderate	Low
383: Donica-----	---	---	---	---	Moderate	Moderate	Low
384: Donica-----	---	---	---	---	Moderate	Moderate	Low
385: Donica-----	---	---	---	---	Moderate	Moderate	Low
Surprise-----	---	---	---	---	Moderate	Moderate	Low
386: Dosie-----	Bedrock (lithic)	40-60	---	Indurated	Low	Moderate	Low
Cormol-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Low	Moderate	Low
387: Dosie-----	Bedrock (lithic)	40-60	---	Indurated	Low	Moderate	Low
Fiddler-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
Rubble land-----	Bedrock (lithic)	40-60	In ---	Indurated	None	---	---
388: Dosie-----	Bedrock (lithic)	40-60	---	Indurated	Low	Moderate	Low
Rubble land-----	Bedrock (lithic)	40-60	---	Indurated	None	---	---
389: Dosie-----	Bedrock (lithic)	40-60	---	Indurated	Low	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-80	---	Moderately cemented	Moderate	Moderate	Low
390: Emagert-----	---	---	---	---	High	Moderate	Low
391: Emagert-----	---	---	---	---	High	Moderate	Low
Wetvit-----	---	---	---	---	High	Moderate	Low
392: Emamont-----	---	---	---	---	High	Moderate	Low
Grimlake-----	---	---	---	---	Low	High	Low
393: Esmod-----	Duripan	14-20	40-46	Strongly cemented	Low	Moderate	Low
394: Esmod-----	Duripan	14-20	40-46	Strongly cemented	Low	Moderate	Low
Hangrock-----	Duripan	14-20	40-46	Strongly cemented	Low	Moderate	Low
395: Esmod-----	Duripan	14-20	40-46	Strongly cemented	Low	Moderate	Low
Powlow-----	Duripan	14-20	4-17	Strongly cemented	Low	Moderate	Low
396: Ferver-----	Duripan	20-40	4-20	Strongly cemented	Moderate	High	Low
	Bedrock (paralithic)	40-60	---	Moderately cemented			
397: Ferver-----	Duripan	20-40	4-20	Strongly cemented	Moderate	High	Low
	Bedrock (paralithic)	40-60	---	Moderately cemented			
Tunnison-----	Bedrock (paralithic)	20-35	---	Moderately cemented	Moderate	High	Low
	Bedrock (lithic)	30-40	---	Indurated			
398: Fitzwater-----	---	---	---	---	Moderate	Moderate	Low
Westbutte-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
399: Fluvaquents-----	---	---	---	---	High	High	Low
Riverwash-----	---	---	---	---	---	---	---
400: Four Star-----	---	---	---	---	High	High	Low
401: Four Star-----	---	---	---	---	High	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
		In	In				
402: Four Star-----	---	---	---	---	High	High	Low
403: Four Star-----	---	---	---	---	High	High	Low
404: Freznik-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	High	Low
405: Fulstone-----	Duripan	14-20	4-17	Indurated	Moderate	High	Low
Nellspring-----	Duripan	20-40	20-40	Strongly cemented	Low	Moderate	Low
Buffaran-----	Duripan	14-20	4-17	Indurated	Low	High	Low
406: Fulstone-----	Duripan	14-20	4-17	Indurated	Moderate	High	Low
Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Tuffo-----	Bedrock (paralithic)	4-14	---	Moderately cemented	Moderate	Moderate	Low
407: Gorzell-----	---	---	---	---	Low	High	Low
Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
408: Gorzell-----	---	---	---	---	Low	High	Low
Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
409: Grassycan-----	Duripan	7-14	0-1	Indurated	Low	Moderate	Low
	Bedrock (lithic)	7-14	---	Indurated			
Grassycan-----	Duripan	7-14	0-1	Indurated	Low	Moderate	Low
	Bedrock (lithic)	7-14	---	Indurated			
410: Grassycan-----	Duripan	7-14	0-1	Indurated	Low	Moderate	Low
	Bedrock (lithic)	7-14	---	Indurated			
Rock outcrop-----	---	---	---	---	---	---	---
411: Gurlidawg-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
412: Gurlidawg-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
413: Gurlidawg-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
414: Gurlidawg-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
415: Halvert-----	Duripan	20-32	4-12	Indurated	Low	Low	Low
	Bedrock (paralithic)	24-40	---	Moderately cemented			

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
Jaybee-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Tunnison-----	Bedrock (paralithic)	20-35	---	Moderately cemented	Moderate	High	Low
	Bedrock (lithic)	30-40	---	Indurated			
416: Hangrock-----	Duripan	14-20	40-46	Strongly cemented	Low	Moderate	Low
417: Harskel-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low
Brownsbowl-----	---	---	---	---	High	Moderate	Low
Cowbell-----	---	---	---	---	Moderate	Low	Moderate
418: Harskel-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low
Menbo-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
419: Harskel-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low
Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Cowbell-----	---	---	---	---	Moderate	Low	Moderate
420: Hart Camp-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Moderate	Moderate	Low
Menbo-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
421: Hart Camp-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Moderate	Moderate	Low
Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
422: Hart Camp, moist-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Moderate	Moderate	Low
Runyon-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
423: Hart Camp-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Moderate	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
424: Hartner-----	Bedrock (paralithic)	4-10	---	Moderately cemented	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
Sesdah-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated steel	Concrete
425: Home Camp-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
Runyon-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
426: Hovey-----	---	---	---	---	High	High	Low
427: Hussa-----	---	---	---	---	High	High	Low
428: Hussa-----	---	---	---	---	High	High	Low
429: Hussa-----	---	---	---	---	High	High	Low
430: Hussa-----	---	---	---	---	High	High	Low
431: Hussa-----	---	---	---	---	High	High	Low
432: Hussa-----	---	---	---	---	High	High	Moderate
433: Hussa-----	---	---	---	---	High	High	Low
434: Hussa-----	---	---	---	---	High	High	Low
435: Hussa-----	---	---	---	---	High	High	Low
Couch-----	---	---	---	---	High	High	Moderate
436: Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
437: Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Cavin-----	---	---	---	---	Low	Low	Moderate
Brownsbowl-----	---	---	---	---	High	Moderate	Low
438: Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Cavin-----	---	---	---	---	Low	Low	Moderate
Zorromount-----	---	---	---	---	Moderate	Low	Moderate
439: Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Mosquet-----	Bedrock (lithic)	14-20	---	Indurated	High	Moderate	Low
Brownsbowl-----	---	---	---	---	High	Moderate	Low
440: Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Nutzan-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
441: Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
442: Indian Creek-----	Duripan	14-20	3-8	Indurated	Low	High	Low
Buffaran-----	Duripan	14-20	4-17	Indurated	Low	High	Low
443: Jaybee-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Verdico-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
444: Keddie-----	---	---	---	---	None	Moderate	Low
445: Leviathan-----	---	---	---	---	Moderate	Moderate	Low
446: Lolak-----	---	---	---	---	Moderate	High	High
447: Longdis-----	---	---	---	---	Low	High	Low
Dugway-----	Duripan	20-40	4-17	Strongly cemented	Low	High	High
448: Longval-----	---	---	---	---	High	Moderate	Moderate
449: Lotawaca-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
450: Lotawaca-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
451: Lyonman-----	Bedrock (paralithic)	22-40	---	Moderately cemented	Moderate	Moderate	Moderate
452: Lyonman-----	Bedrock (paralithic)	22-40	---	Moderately cemented	Moderate	Moderate	Moderate
453: Lyonman-----	Bedrock (paralithic)	22-40	---	Moderately cemented	Moderate	Moderate	Moderate
454: Lyonman, cool-----	Bedrock (paralithic)	22-40	---	Moderately cemented	Moderate	Moderate	Moderate
455: Macnot-----	---	---	---	---	Low	High	Low
456: Macnot-----	---	---	---	---	Low	High	Low
Glasshawk-----	Duripan	10-14	28-51	Strongly cemented	Low	Moderate	Low
	Bedrock (paralithic)	40-60	---	Moderately cemented			
457: Macnot-----	---	---	---	---	Low	High	Low
Gorzell-----	---	---	---	---	Low	High	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
Macnot, nearly level---	---	In	In	---	Low	High	Low
458: Macnot, nearly level---	---	---	---	---	Low	High	Low
Jesayno-----	---	---	---	---	Moderate	High	Low
Nevadash-----	---	---	---	---	Moderate	High	Low
459: Macnot-----	---	---	---	---	Low	High	Low
Mcwatt-----	Bedrock (lithic)	40-60	---	Indurated	Low	High	Low
Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
460: Macnot-----	---	---	---	---	Low	High	Low
Macnot, nearly level---	---	---	---	---	Low	High	Low
Nomazu, moderately saline-----	---	---	---	---	Moderate	High	Moderate
461: Madeline-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Sumine-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
462: Mazuma-----	---	---	---	---	Low	High	High
Bighat-----	---	---	---	---	Low	High	Low
463: Mcwatt-----	Bedrock (lithic)	40-60	---	Indurated	Low	High	Low
Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
464: Mcwatt-----	Bedrock (lithic)	40-60	---	Indurated	Low	High	Low
Skedaddle-----	Bedrock (lithic)	4-12	---	Indurated	Moderate	Moderate	Low
465: Medved-----	Bedrock (lithic)	5-10	---	Indurated	Moderate	Moderate	Low
466: Menbo-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-80	---	Moderately cemented	Moderate	Moderate	Low
Badgercamp-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low
467: Nevadash-----	---	---	---	---	Moderate	High	Low
468: Nevadash-----	---	---	---	---	Moderate	High	Low
469: Nevadash-----	---	---	---	---	Moderate	High	Low
470: Nevadash-----	---	---	---	---	Moderate	High	Low
Couch-----	---	---	---	---	High	High	Moderate
471: Nevadash-----	---	---	---	---	Moderate	High	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
Gorzell-----	---	In ---	In ---	---	Low	High	Low
472: Nevadash-----	---	---	---	---	Moderate	High	Low
Jesayno-----	---	---	---	---	Moderate	High	Low
473: Nevadash-----	---	---	---	---	Moderate	High	Low
Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
474: Newlands-----	Bedrock (lithic)	40-60	---	Indurated	Moderate	Moderate	Low
Menbo-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
475: Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Crocan-----	Bedrock (lithic)	10-14	---	Indurated	Moderate	Moderate	Low
476: Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Karlo-----	Bedrock (lithic)	24-40	---	Indurated	Low	High	Low
Crocan-----	Bedrock (lithic)	10-14	---	Indurated	Moderate	Moderate	Low
477: Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Madeline-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Crocan-----	Bedrock (lithic)	10-14	---	Indurated	Moderate	Moderate	Low
478: Ninemile-----	Bedrock (lithic)	14-20	---	Indurated	Low	Moderate	Low
Madeline-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
479: Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Madeline-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Tinpan-----	Bedrock (lithic)	20-40	---	Indurated	Low	Low	Low
480: Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
Crocan-----	Bedrock (lithic)	10-14	---	Indurated	Moderate	Moderate	Low
481: Ninemile-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
Westbutte-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top In	Thickness In		Hardness	Uncoated steel	Concrete
482: Nitpac-----	Duripan	20-40	4-17	Strongly cemented	Moderate	Moderate	Low
	Bedrock (paralithic)	24-40	---	Moderately cemented			
Tunnison-----	Bedrock (paralithic)	20-35	---	Moderately cemented	Moderate	High	Low
	Bedrock (lithic)	30-40	---	Indurated			
Bidrim-----	Bedrock (lithic)	10-14	---	Indurated	Moderate	Moderate	Low
483: Nitpac-----	Duripan	20-40	4-17	Strongly cemented	Moderate	Moderate	Low
	Bedrock (paralithic)	24-40	---	Moderately cemented			
Tunnison-----	Bedrock (paralithic)	20-35	---	Moderately cemented	Moderate	High	Low
	Bedrock (lithic)	30-40	---	Indurated			
Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
484: Nomazu-----	---	---	---	---	Moderate	High	Moderate
Macnot-----	---	---	---	---	Low	High	Low
485: Nomazu, moderately saline-----	---	---	---	---	Moderate	High	Moderate
Ragtown-----	---	---	---	---	Low	High	High
486: Nopeg-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Low	High	Low
Pegler-----	Bedrock (paralithic)	10-14	---	Moderately cemented	Low	High	Low
487: Nowack-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
488: Nowack-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
489: Nowack-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Fendersflat, cool-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
490: Nutzan-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Cavin-----	---	---	---	---	Low	Low	Moderate
Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
491: Nutzan-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top	Thickness	Hardness		Uncoated steel	Concrete
Hutchley-----	Bedrock (lithic)	10-20	In ---	Indurated	Moderate	Moderate	Low
Tusune-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
492: Nutzan-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Tusune-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Ashtre-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
493: Observation-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Searles-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
Madeline-----	Bedrock (lithic)	10-20	---	Indurated	Low	Moderate	Low
494: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
495: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
496: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
497: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Ceejay-----	Bedrock (lithic)	14-20	---	Indurated	Low	High	Low
498: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Gorzell-----	---	---	---	---	Low	High	Low
Macnot-----	---	---	---	---	Low	High	Low
499: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Mcwatt-----	Bedrock (lithic)	40-60	---	Indurated	Low	High	Low
500: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Rubble land-----	Bedrock (lithic)	40-60	---	Indurated	None	---	---
501: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
502: Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Skedaddle-----	Bedrock (lithic)	4-12	---	Indurated	Moderate	Moderate	Low
503: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
504: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
Skidbrackle-----	Bedrock (lithic)	In 14-20	In ---	Indurated	Moderate	Moderate	Low
505: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Fendersflat-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
506: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Fendersflat, cool-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
507: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Fendersflat-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
508: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Fendersflat-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
Pyropatti, cool-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
509: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Fingerridge-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
520: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Pyropatti, cool-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Fingerridge-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
521: Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Skidbrackle-----	Bedrock (lithic)	14-20	---	Indurated	Moderate	Moderate	Low
522: Paypoint-----	---	---	---	---	Moderate	High	Low
Langston-----	---	---	---	---	Moderate	High	Low
523: Pickup-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
524: Pickup-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
Nosavvy-----	---	---	---	---	---	High	Low
Skedaddle-----	Bedrock (lithic)	4-12	---	Indurated	Moderate	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
		In	In				
525: Pits, gravel-----	---	---	---	---	None	---	---
526: Pits, mine-----	Bedrock (lithic)	0-0	---	Indurated	---	---	---
Dumps, mine-----	---	---	---	---	---	---	---
527: Playas-----	---	---	---	---	None	High	High
528: Pyropatti, cool-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
Pyropatti-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
529: Raglan-----	---	---	---	---	Low	High	High
530: Raglan-----	---	---	---	---	Low	High	High
Crutcher-----	---	---	---	---	Moderate	High	High
531: Raglan-----	---	---	---	---	Low	High	High
Isolde-----	---	---	---	---	Low	High	Low
532: Raglan-----	---	---	---	---	Low	High	High
Mazuma-----	---	---	---	---	Low	High	High
533: Redhome-----	Bedrock (paralithic)	20-39	---	Moderately cemented	Moderate	High	Low
Cowbell-----	---	---	---	---	Moderate	Low	Moderate
534: Redhome-----	Bedrock (paralithic)	20-39	---	Moderately cemented	Moderate	High	Low
Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
535: Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
536: Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
537: Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
538: Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Fernpoint-----	---	---	---	---	Low	High	Low
539: Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Marepas-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Low	Moderate
540: Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Uncoated steel	Concrete	
Rock outcrop-----	---	In	In	---	---	---	
Marepas-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Low	Moderate
541: Rubble land-----	Bedrock (lithic)	60-60	---	Indurated	None	---	---
Rock outcrop-----	---	---	---	---	---	---	---
542: Rodeck-----	---	---	---	---	Moderate	High	Low
543: Rubble land-----	Bedrock (lithic)	40-60	---	Indurated	None	---	---
Dosie-----	Bedrock (lithic)	40-60	---	Indurated	Low	Moderate	Low
Menbo-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
544: Rubble land-----	Bedrock (lithic)	40-60	---	Indurated	None	---	---
Home Camp-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
545: Rubble land-----	---	---	---	---	---	---	---
Paynepeak-----	Bedrock (paralithic)	40-60	---	Moderately cemented	Moderate	Moderate	Low
546: Runyon-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Moderate	Moderate	Low
Hapgood-----	Bedrock (lithic)	40-60	---	Indurated	Moderate	Moderate	Low
547: Saltmount-----	---	---	---	---	Moderate	High	High
Saltmount-----	---	---	---	---	Moderate	High	High
548: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Ashcamp-----	Bedrock (paralithic)	7-14	---	Moderately cemented	Low	Moderate	Low
Bitner-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
549: Bombadil-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Macnot, nearly level---	---	---	---	---	Low	High	Low
550: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Chalco-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Low	Moderate	Low
551: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Chalco-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Low	Moderate	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
Bombadil-----	Bedrock (lithic)	In 7-14	In ---	Indurated	Moderate	Moderate	Low
552: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Hangrock-----	Duripan	14-20	40-46	Strongly cemented	Low	Moderate	Low
Tuffo-----	Bedrock (paralithic)	4-14	---	Moderately cemented	Moderate	Moderate	Low
553: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Macnot, nearly level---	---	---	---	---	Low	High	Low
Tuffo-----	Bedrock (paralithic)	4-14	---	Moderately cemented	Moderate	Moderate	Low
554: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Nosavvy-----	---	---	---	---	---	High	Low
Tuffo-----	Bedrock (paralithic)	4-14	---	Moderately cemented	Moderate	Moderate	Low
555: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Skedaddle-----	Bedrock (lithic)	4-12	---	Indurated	Moderate	Moderate	Low
556: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Tuffo-----	Bedrock (paralithic)	4-14	---	Moderately cemented	Moderate	Moderate	Low
Old Camp-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
557: Saraph-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	High	Low
Tuffo-----	Bedrock (paralithic)	4-14	---	Moderately cemented	Moderate	Moderate	Low
Yellowhills-----	---	---	---	---	High	Moderate	Low
558: Schamp-----	---	---	---	---	Low	High	Low
559: Schamp-----	---	---	---	---	Low	High	Low
560: Sedsked-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Skedaddle-----	Bedrock (lithic)	4-12	---	Indurated	Moderate	Moderate	Low
561: Simpson-----	---	---	---	---	High	High	Low
562: Simpson-----	---	---	---	---	High	High	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer				Potential for frost action	Risk of corrosion	
	Kind	Depth to top In	Thickness In	Hardness		Uncoated steel	Concrete
563: Simpson-----	---	---	---	---	High	High	Low
564: Skullwak-----	---	---	---	---	Moderate	High	High
565: Snag-----	---	---	---	---	High	Moderate	Moderate
Brownsbowl-----	---	---	---	---	High	Moderate	Low
Hashwoods-----	Bedrock (paralithic)	40-60	---	Moderately cemented	High	Moderate	Low
566: Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
567: Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
Dosie-----	Bedrock (lithic)	40-60	---	Indurated	Low	Moderate	Low
Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
568: Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
Hart Camp-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Moderate	Moderate	Low
569: Softscrabble-----	Bedrock (paralithic)	60-71	---	Moderately cemented	Moderate	Moderate	Low
Sumine-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
570: Soughe-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
571: Soughe-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	High	Low
Rock outcrop-----	---	---	---	---	---	---	---
572: Steerlake-----	Duripan	40-58	2-20	Weakly cemented	Low	High	Low
Reywat-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
573: Steerlake-----	Duripan	40-58	2-20	Weakly cemented	Low	High	Low
Wylo-----	Bedrock (lithic)	14-20	---	Indurated	Low	Moderate	Low
574: Surprise-----	---	---	---	---	Moderate	Moderate	Low
575: Surprise-----	---	---	---	---	Moderate	Moderate	Low
576: Tuledad-----	Bedrock (lithic)	14-20	---	Indurated	Moderate	High	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
Nitpac-----	Duripan	In 20-40	In 4-17	Strongly cemented	Moderate	Moderate	Low
	Bedrock (paralithic)	24-40	---	Moderately cemented			
Bidrim-----	Bedrock (lithic)	10-14	---	Indurated	Moderate	Moderate	Low
577: Tunnison-----	Bedrock (paralithic)	20-35	---	Moderately cemented	Moderate	High	Low
	Bedrock (lithic)	30-40	---	Indurated			
Devada-----	Bedrock (lithic)	12-20	---	Indurated	Low	Moderate	Low
Bidrim-----	Bedrock (lithic)	10-14	---	Indurated	Moderate	Moderate	Low
578: Tunnison-----	Bedrock (paralithic)	20-35	---	Moderately cemented	Moderate	High	Low
	Bedrock (lithic)	30-40	---	Indurated			
Tuledad-----	Bedrock (lithic)	14-20	---	Indurated	Moderate	High	Low
579: Tusune-----	Bedrock (paralithic)	20-40	---	Moderately cemented	Low	Moderate	Low
Hartig-----	Bedrock (lithic)	40-60	---	Indurated	Moderate	Moderate	Low
580: Updike-----	---	---	---	---	Low	High	Moderate
Longdis-----	---	---	---	---	Low	High	Low
581: Updike-----	---	---	---	---	Low	High	Moderate
Mazuma-----	---	---	---	---	Low	High	High
582: Valmy-----	---	---	---	---	Low	High	Low
583: Warnermount, warm-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
584: Warnermount-----	Bedrock (lithic)	20-40	---	Indurated	Moderate	Moderate	Low
Burningman-----	Bedrock (lithic)	14-20	---	Indurated	Moderate	Moderate	Low
585: Warnermount-----	Bedrock (lithic)	20-39	---	Indurated	Moderate	Moderate	Low
Crazybird-----	Bedrock (paralithic)	14-20	---	Moderately cemented	Moderate	Moderate	Low
587: Weezweed-----	---	---	---	---	High	Moderate	Low
Emagert-----	---	---	---	---	High	Moderate	Low
Wetvit-----	---	---	---	---	High	Moderate	Low
588: Weimer-----	---	---	---	---	Moderate	High	Low
589: Weimer-----	---	---	---	---	Moderate	High	Low
Boulder Lake-----	---	---	---	---	Moderate	High	Low

TABLE 17.--Soil Features

Map symbol and soil name	Restrictive layer			Potential for frost action	Risk of corrosion		
	Kind	Depth to top	Thickness		Hardness	Uncoated steel	Concrete
		In	In				
590:							
Weimer-----	---	---	---	---	Moderate	High	Low
Grimlake-----	---	---	---	---	Low	High	Low
591:							
Welch-----	---	---	---	---	High	Moderate	Low
592:							
Welltomas-----	Bedrock (lithic)	7-14	---	Indurated	Moderate	Moderate	Low
Hartner-----	Bedrock (paralithic)	4-10	---	Moderately cemented	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
593:							
Wylo-----	Bedrock (lithic)	14-20	---	Indurated	Low	Moderate	Low
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
594:							
Wylo-----	Bedrock (lithic)	14-20	---	Indurated	Low	Moderate	Low
Chalco-----	Bedrock (paralithic)	10-20	---	Moderately cemented	Low	Moderate	Low
595:							
Wylo-----	Bedrock (lithic)	14-20	---	Indurated	Low	Moderate	Low
Pickup-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
596:							
Wylo-----	Bedrock (lithic)	14-20	---	Indurated	Low	Moderate	Low
Pickup-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
Bucklake-----	Bedrock (lithic)	20-40	---	Indurated	Low	Moderate	Low
597:							
Wylo-----	Bedrock (lithic)	14-20	---	Indurated	Low	Moderate	Low
Pickup-----	Bedrock (lithic)	20-40	---	Indurated	Low	High	Low
Ceejay-----	Bedrock (lithic)	14-20	---	Indurated	Low	High	Low
598:							
Wylo-----	Bedrock (lithic)	14-20	---	Indurated	Low	Moderate	Low
Rock outcrop-----	---	---	---	---	---	---	---
600:							
Zorravista-----	---	---	---	---	Low	High	Low
601:							
Zorravista-----	---	---	---	---	Low	High	Low
Davey-----	---	---	---	---	Low	High	Low
Isolde-----	---	---	---	---	Low	High	Low
602:							
Zorromount-----	---	---	---	---	Moderate	Low	Moderate
Hutchley-----	Bedrock (lithic)	10-20	---	Indurated	Moderate	Moderate	Low
Zorromount, snowpocket-	---	---	---	---	Moderate	Low	Moderate

TABLE 18.--Taxonomic Classification of the Soils

(An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics that are outside the range of the series.)

Soil name	Family or higher taxonomic class
Anawalt-----	Clayey, smectitic, frigid Lithic Xeric Haplargids
Ashcamp-----	Ashy, glassy, mesic, shallow Vitritorrandic Argixerolls
Ashdos-----	Ashy, glassy, frigid Vitritorrandic Argixerolls
Ashtre-----	Ashy, glassy, frigid Vitritorrandic Argixerolls
Badgercamp-----	Loamy-skeletal, mixed, superactive, shallow Xeric Argicryolls
Bareranch-----	Ashy-skeletal, glassy, mesic Vitritorrandic Argixerolls
Bicondoa-----	Fine, smectitic, calcareous, frigid Fluvaquentic Vertic Endoaquolls
Bidrim-----	Clayey, smectitic, mesic Lithic Argixerolls
Bidwell-----	Ashy, glassy, mesic Vitritorrandic Argixerolls
Bieber-----	Clayey, smectitic, mesic, shallow Argiduridic Durixerolls
Bighat-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Typic Natrargids
Bitner-----	Ashy, glassy, mesic Vitritorrandic Haploxerolls
Bombadil-----	Loamy, mixed, superactive, mesic Lithic Xeric Haplargids
Boulder Lake-----	Fine, smectitic, frigid Xeric Epiaquerts
Boulderfan-----	Ashy-skeletal, glassy Vitrandic Argicryolls
Bregar-----	Loamy-skeletal, mixed, superactive, frigid Lithic Xeric Haplargids
Brownsbowl-----	Ashy, glassy Vitrandic Haplocryolls
Brubeck-----	Fine, smectitic, mesic Aridic Haploxererts
Bucklake-----	Fine, smectitic, mesic Aridic Argixerolls
Buffaran-----	Clayey, smectitic, mesic, shallow Xeric Argidurids
Bullump-----	Loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls
Buntingville-----	Ashy, glassy, mesic Vitrandic Argixerolls
Burningman-----	Ashy over clayey, glassy over smectitic, frigid Lithic Argixerolls
Cavin-----	Ashy-skeletal, glassy, frigid Vitritorrandic Haploxerolls
Ceejay-----	Clayey, smectitic, mesic Lithic Xeric Haplargids
Chalco-----	Clayey, smectitic, mesic, shallow Xeric Haplargids
Chime-----	Fine-loamy, mixed, superactive, mesic Durinodic Xeric Haplargids
Coppersmith-----	Ashy, glassy, mesic Vitritorrandic Argixerolls
Cormol-----	Ashy, glassy, mesic, shallow Vitritorrandic Argixerolls
Corral-----	Loamy, mixed, superactive, mesic, shallow Xeric Haplargids
Cotant-----	Clayey, smectitic, frigid, shallow Aridic Argixerolls
Couch-----	Fine, smectitic, mesic Vitrixerandic Natrargids
Cowbell-----	Ashy-skeletal, glassy Vitrandic Argicryolls
Crazybird-----	Ashy-skeletal, glassy, frigid, shallow Vitrandic Argixerolls
Crocan-----	Clayey, smectitic, frigid Lithic Argixerolls
Crutcher-----	Ashy, glassy, mesic Sodic Xeric Haplocambids
Cuminvar-----	Ashy over clayey, glassy over smectitic, nonacid, frigid Typic Endoaquents
Cummings-----	Ashy, glassy, calcareous, frigid Aquandic Endoaquolls
Dangvar-----	Clayey, smectitic, mesic, shallow Aquic Natrargidic Natridurids
Davey-----	Sandy, mixed, mesic Xeric Haplocambids
Dawgbuffer-----	Ashy-skeletal, glassy, frigid, shallow Vitrandic Argixerolls
Devada-----	Clayey, smectitic, mesic Lithic Argixerolls
Diaz-----	Fine, smectitic, mesic Xeric Haplargids
Dismalswamp-----	Ashy, glassy Aquandic Cryaquolls
Donica-----	Ashy-skeletal, glassy, mesic Vitritorrandic Haploxerolls
Dosie-----	Clayey-skeletal, smectitic, mesic Pachic Argixerolls
Dugway-----	Fine, smectitic, mesic Natrixeralfic Natridurids
Emagert-----	Ashy, glassy, mesic Vitritorrandic Haploxerolls
Emamount-----	Ashy, glassy, frigid Vitritorrandic Haploxerolls
Esmod-----	Clayey, smectitic, mesic, shallow Abruptic Xeric Argidurids
Fendersflat-----	Ashy-skeletal, glassy Vitrandic Argicryolls
Fernpoint-----	Fine-loamy, mixed, superactive, mesic Aridic Argixerolls
Ferver-----	Very-fine, smectitic, mesic Vertic Argidurids
Fiddler-----	Clayey-skeletal, smectitic, mesic Typic Argixerolls
Fingerridge-----	Ashy-skeletal, glassy, frigid Lithic Argixerolls
Fitzwater-----	Loamy-skeletal, mixed, superactive, frigid Aridic Haploxerolls
Fluvaquents-----	Mesic Fluvaquents
Four Star-----	Ashy, glassy, frigid Aquandic Endoaquolls
Freznik-----	Fine, smectitic, frigid Xeric Paleargids
Fulstone-----	Clayey, smectitic, mesic, shallow Abruptic Xeric Argidurids
Glasshawk-----	Ashy, glassy, mesic, shallow Cambidic Haplodurids
Gorzell-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Durinodic Xeric Haplargids
Grassycan-----	Clayey, smectitic, mesic, shallow Abruptic Xeric Argidurids
Grimlake-----	Fine, smectitic, frigid Aquic Haploxererts
Gurlidawg-----	Ashy-skeletal, glassy Xeric Vitricryands
Halvert-----	Very-fine, smectitic, mesic Vertic Durixerolls
Hangrock-----	Ashy, glassy, mesic, shallow Haploxeralfic Argidurids

TABLE 18.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Hapgood-----	Loamy-skeletal, mixed, superactive Pachic Haplocryolls
Harskel-----	Ashy-skeletal, glassy, frigid, shallow Vitritorrandic Argixerolls
Hart Camp-----	Loamy, mixed, superactive, frigid, shallow Aridic Argixerolls
Hartig-----	Loamy-skeletal, mixed, superactive, frigid Aridic Haploxerolls
Hartner-----	Ashy, glassy, nonacid, frigid, shallow Vitrandic Torriorthents
Hashwoods-----	Ashy, glassy Vitrandic Argicryolls
Home Camp-----	Clayey-skeletal, smectitic, frigid Vitrandic Argixerolls
Hovey-----	Fine-loamy, mixed, superactive, mesic Aquic Haplocalcids
Hussa-----	Ashy, glassy, calcareous, frigid Aquandic Endoaquolls
Hutchley-----	Loamy-skeletal, mixed, superactive, frigid Lithic Argixerolls
Indian Creek-----	Clayey, smectitic, mesic, shallow Xeric Argidurids
Isolde-----	Mixed, mesic Typic Torripsamments
Jaybee-----	Loamy, mixed, superactive, mesic Lithic Xeric Haplargids
Jesayno-----	Ashy, glassy, mesic Vitrixerandic Haplocambids
Karlo-----	Very-fine, smectitic, frigid Leptic Haploxererts
*Keddie-----	Fine-loamy, mixed, superactive, frigid Cumulic Endoaquolls
Langston-----	Fine-loamy over sandy or sandy-skeletal, mixed, superactive, mesic Xeric Haplargids
Leviathan-----	Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls
Lolak-----	Fine, smectitic, calcareous, frigid Vertic Halaquepts
Longdis-----	Fine, smectitic, mesic Xeric Natrargids
Longval-----	Ashy-skeletal, glassy Humic Xeric Vitricryands
Lotawaca-----	Ashy-skeletal, glassy Humic Xeric Vitricryands
Lyonman-----	Ashy-skeletal, glassy, frigid Vitrandic Argixerolls
Macnot-----	Ashy-skeletal, glassy, mesic Vitrixerandic Haplocalcids
Madeline-----	Clayey, smectitic, frigid Lithic Argixerolls
Marepas-----	Ashy-skeletal, glassy, mesic Lithic Argixerolls
Mazuma-----	Coarse-loamy, mixed, superactive, calcareous, mesic Typic Torriorthents
Mcwatt-----	Sandy-skeletal, mixed, mesic Xeric Haplocambids
Medved-----	Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Xeric Torriorthents
Menbo-----	Clayey-skeletal, smectitic, frigid Vitrandic Argixerolls
Mosquet-----	Clayey, smectitic Lithic Argicryolls
Nellspring-----	Fine, smectitic, mesic Vertic Argidurids
Nevadash-----	Ashy, glassy, mesic Durinodic Xeric Haplargids
Newlands-----	Fine-loamy, mixed, superactive Xeric Argicryolls
Ninemile-----	Clayey, smectitic, frigid Lithic Argixerolls
Nitpac-----	Fine, smectitic, mesic Vertic Durixerolls
Nomazu-----	Ashy, glassy, mesic Durinodic Haplocalcids
Nopeg-----	Ashy, glassy, mesic, shallow Sodic Haplocambids
Nosavvy-----	Ashy, glassy, mesic Vitrixerandic Haplargids
Nowack-----	Ashy-skeletal, glassy, frigid Alfic Humic Vitrixerands
Nutzan-----	Ashy-skeletal, glassy, frigid Vitritorrandic Haploxerolls
Observation-----	Fine, smectitic, frigid Typic Argixerolls
Old Camp-----	Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids
Paynepeak-----	Ashy-skeletal, glassy Vitrandic Argicryolls
Paypoint-----	Ashy over sandy or sandy-skeletal, glassy over mixed, mesic Durinodic Xeric Haplargids
Pegler-----	Ashy, glassy, mesic, shallow Vitrixerandic Haplocambids
Pickup-----	Clayey-skeletal, smectitic, mesic Aridic Argixerolls
Powlow-----	Clayey, smectitic, mesic, shallow Argidic Durixerolls
Pyropatti-----	Ashy-skeletal, glassy Vitrandic Argicryolls
Raglan-----	Fine-loamy, mixed, superactive, mesic Durinodic Haplocambids
Ragtown-----	Fine, smectitic, calcareous, mesic Typic Torriorthents
Redhome-----	Fine, mixed, superactive, frigid Vitritorrandic Argixerolls
Reywat-----	Loamy-skeletal, mixed, superactive, mesic Lithic Argixerolls
Rodock-----	Loamy-skeletal, mixed, superactive, mesic Duridic Haploxerolls
Runyon-----	Fine-loamy, mixed, superactive, frigid Vitrandic Argixerolls
Saltmount-----	Very-fine, mixed, superactive, mesic Typic Haplosalids
Saraph-----	Ashy, glassy, mesic, shallow Vitrixerandic Haplargids
Schamp-----	Fine, smectitic, mesic Xeric Haplargids
Searles-----	Loamy-skeletal, mixed, superactive, mesic Aridic Argixerolls
Sedsked-----	Loamy-skeletal, mixed, superactive, mesic, shallow Xeric Haplargids
Sesdah-----	Ashy, glassy, frigid, shallow Vitrandic Argixerolls
Simpson-----	Ashy, glassy, mesic Vitritorrandic Argixerolls
Skedaddle-----	Loamy-skeletal, mixed, superactive, nonacid, mesic Lithic Xeric Torriorthents
Skidbrackle-----	Ashy-skeletal, glassy, frigid Lithic Argixerolls
Skullwak-----	Fine, smectitic, calcareous, mesic Duric Halaquepts
Snag-----	Ashy-skeletal, glassy Vitrandic Argicryolls
Softscrabble-----	Loamy-skeletal, mixed, superactive, frigid Pachic Argixerolls
Soughe-----	Loamy-skeletal, mixed, superactive, mesic Lithic Xeric Haplargids
Steerlake-----	Fine, smectitic, mesic Vertic Palexerolls
Sumine-----	Loamy-skeletal, mixed, superactive, frigid Aridic Argixerolls
Surprise-----	Ashy, glassy, mesic Vitritorrandic Haploxerolls

TABLE 18.--Taxonomic Classification of the Soils--Continued

Soil name	Family or higher taxonomic class
Tinpan-----	Very-fine, smectitic, frigid Vertic Palexerolls
Tuffo-----	Ashy, glassy, nonacid, mesic, shallow Vitrandic Torriorthents
Tuledad-----	Clayey, smectitic, mesic Lithic Haploxererts
Tunnison-----	Very-fine, smectitic, mesic Aridic Haploxererts
Tusune-----	Ashy-skeletal, glassy Vitrandic Argicryolls
Uhaldi-----	Fine-loamy, mixed, superactive, mesic Aridic Argixerolls
Updike-----	Fine, smectitic, mesic Xerertic Natrargids
Valmy-----	Coarse-loamy, mixed, superactive, calcareous, mesic Duric Torriorthents
Verdico-----	Fine, smectitic, mesic Vertic Paleargids
Warnermount-----	Ashy-skeletal, glassy, frigid Vitrandic Argixerolls
Weezweed-----	Ashy, glassy, mesic Vitritorrandic Haploxerolls
Weimer-----	Very-fine, smectitic, frigid Xeric Epiaquerts
Welch-----	Fine-loamy, mixed, superactive, frigid Cumulic Endoaquolls
Welltomas-----	Ashy-skeletal, glassy, frigid Lithic Argixerolls
Westbutte-----	Loamy-skeletal, mixed, superactive, frigid Pachic Haploxerolls
Wetvit-----	Ashy, glassy, mesic Aquandic Endoaquolls
Wylo-----	Clayey, smectitic, mesic Lithic Argixerolls
Yellowhills-----	Ashy, glassy, mesic Vitritorrandic Haploxerolls
Zorravista-----	Mixed, mesic Xeric Torripsamments
Zorromount-----	Ashy-skeletal, glassy Vitrandic Haplocryolls
Zymans-----	Fine, smectitic, mesic Aridic Argixerolls

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